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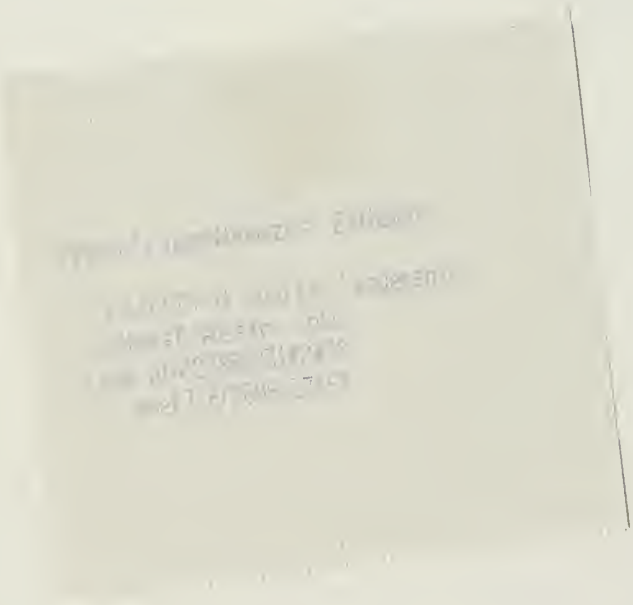

TOTAL QUALITY LEADERSHIP -

Creating a Quality Culture

A Scholarly Paper Presented to

The Faculty of the Construction Engineering and Management Program

University of Maryland at College Park

by

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In Partial Fulfillment

of the Requirements for the Degree of

Master of Science (in Civil Engineering)

Approved:

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ABSTRACT: TOTAL QUALITY LEADERSHIP - Creating a Quality Culture.

Today's organizations are faced with an increasing threat of foreign competition. The world is fast becoming a global marketplace where inefficiency is rewarded with loss of market share and the inevitable closing of weaker businesses. Most of these established organizations are facing this type of challenge for the first time in their corporate history. Compounding this problem are management's view of the work force as unmotivated and unskilled, and the constantly changing technology necessary to maintain a competitive edge. Today's predominate management styles and the managers that practice them are not equipped to handle this challenge.

Today's worker has had to adapt to exploding technology. They have gained the ability to reason independently of management. They are able to use skills and systems that were not available when today's managers learned the trade. New applicants are more interested in stability and being able to make a contribution to the organization. They are more selective in deciding which organization to work for (Herman 1990). Autocratic management will no longer work. It is a certain path to failure.

To remain competitive in this new market, organizations must fully utilize all of their resources. Chief amongst these are their employees. There is no database, user's manual or textbook that can possibly contain the amount of knowledge and experience of these employees. Contrary to some popular literature on the subject, they are ready, willing and able to ensure the organization's success. They only need to be asked.

The goal of Total Quality Leadership is to create a lasting improvement in the way that the organization views quality. As stated earlier, an organization is defined by the people that belong to it. Therefore, a quality organization starts with quality people. Quality people nurtured by quality leaders in an atmosphere of interdependence and empowerment form a quality culture.

A Total Quality Leadership Culture is an organizational environment that fosters the attitudes and behaviors necessary to incorporate the philosophies and tenets of Total Quality Leadership. It is neither a competitive system nor a system that is meant to allow the organization to do more with less. In fact, the word culture precludes it from being thought of as a system at all. It is an atmosphere that empowers the people to improve the quality of both the system processes and products. The improved quality brings about higher productivity and lower cost, while increasing motivation through pride in workmanship.

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Figure 5.2: Time Management Matrix

Figure 5.3: The Delegation Continuum

LITERATURE REVIEW.

Aguayo, R., 1990, Dr. Deming: The American who Taught the Japanese About Quality, Simon & Schuster, New York, NY.

(Pg 12) Management By Objective raises numerical goals without taking into consideration that within the same system it may not be possible to achieve those goals.

(Pg 16-18) "Toyota workers on average make about thirty-three suggestions per worker per year, 90 percent of which are implemented within weeks of their submission." "Construction firms have won three Deming Prizes and experienced soaring levels of productivity after initiating transformations to total quality control."

(Pg 26) "People can be very determined. They can move mountains to meet their goals, even to the detriment of the company. One personnel director was given the objective of reducing turnover and increasing use of the training program. She noticed that people with less education and less potential stayed at her firm longer than others. So she made a concerted effort to hire those with the least education and avoided hiring anyone who seemed too creative. She also sent people through the training program two and three times. She met both her objectives and was congratulated for an outstanding job by the chairman."

(Pg 35-45) Quality can only be defined by the user, the customer. Quality is not:

- Preference
- Technology or features
- Backup systems or overdesign

"The cost of a defect increases dramatically as it moves along the production line. If it gets out to the customer, the cost...is at its greatest."

(Pg 65-75) There are two kinds of mistakes common in analyzing variation:

1. Mistaking the cause of variation as being special in nature, when in fact it is random and caused by the system.
2. Mistaking the source of variation as systemic when in fact it is special and can be identified and eliminated.

"Overadustment of a stable system invariably makes things worse. This deserves a special name - tampering."

(Pg 102-103) "Only management is in a position to work on the system. That is its responsibility. Quality is made in the boardroom. People working in the system can only produce at the level inherent in the system."

(Pg 113) The need for transformation:

- Quality and cost are not trade-offs, they can both be improved together.
- Quality is measured by the customer.
- Variation is a naturally occurring phenomenon.
- Lowering defects in a stable system can only be accomplished by adjusting the system.
- Cooperation is a key ingredient in improvement.

(Pg 150) "Purchasing should be done on the basis of lowest total cost, not just initial cost." Specifications, without communication between suppliers, manufacturer and final customer, can never be used to ensure quality.

(Pg 159) There are four ways to improve the quality of products and services in a stable system:

1. Innovation in product and services.
2. Innovation in the process that creates them.
3. Improvement of existing products and services.
4. Improvement of the existing process.

(Pg 173) "Training improves the system. It lowers costs and improves revenues."

Bauder, K.F., 1990, "A proactive approach", APWA Reporter, Vol. 57, No. 6, American Public Works Association, Chicago, IL.

Statistics for future workforce make-up.

1995:

- 85% of new entrants into workforce will be female, minority, and/or foreign born.
- Literacy will become a major problem.

2000:

- 53% of total workforce will be male.
- 26% will be non-caucasian - 10% hispanic.

Brassard, M., 1988, The Memory Jogger, GOAL/QPC, Methuen, MA.

A pocket guide and explanation of problem solving and graphical techniques for stastical process control.

Byham, W.C. and Cox, J., 1988, Zapp the Lightning of Empowerment, Ballantine Books, New York, N.Y.

(Pages 8-9) The problem is that my boss wants more...because management needs more...because the customers demand more...because competitors are delivering more, but:

- My workers won't do more than the bare minimum.
- Hardly anybody gets excited about work.
- My workers only care about their paychecks and vacations.
- Nobody takes responsibility for anything.

(Pages 51-56) SAPP = taking power away, and is caused by:

- Confusion.
- Lack of trust.
- Not being listened to.
- No time to solve problems.
- Bureaucratic office politics.
- Someone solving problems for you.
- No time to work on bigger issues.
- Not Knowing whether you are succeeding.
- Across-the-board rules and regulations.
- A boss taking credit for others' ideas.
- Not enough resources to do the job well.
- Believing that you can't make a difference.
- A job simplified to the point that it has no meaning.
- People treated exactly the same, like interchangeable parts.

ZAPP = giving power, and is caused by:

- Responsibility.
- Trust.
- Being listened to.
- Teams.
- Solving problems as a team.
- Praise.
- Recognition for ideas.
- Knowing why you are important to the organization.
- Flexible controls.
- Direction (clear key result areas, measurement, goals).
- Knowledge (skills, training, information, goals).
- Support (approval, coaching, feedback, encouragement).
- Resources readily available.
- Upward and downward communications.

(Pages 59-90) How to ZAPP:

- Maintain self-esteem of employees.

- Listen and respond with empathy.
- Seek ideas, suggestions and information.
- Ask for help in solving problems.
- Offer help without taking responsibility.

(Pages 91-97) Delegating authority choices:

1. Refer the task to the proper person.
2. Give authority to carry out task and make decisions.
3. Task without decision making authority.
4. Keep the task.

(Page 118) Coaching steps:

1. Explain purpose and importance of what you are trying to teach.
2. Explain the process to be used.
3. Show how it is done.
4. Observe while the person practices the process.
5. Provide immediate and specific feedback.
6. Express confidence in the person's ability to be successful.
7. Agree on follow-up actions.

(Page 126) In order to be successful, people need:

1. Direction.
2. Knowledge.
3. Resources.
4. Support.

Chase, G.W., 1993, Implementing TQM in a Construction Company, AGC of America, Pub 1211, Washington, D.C.

(Page 26-28) TQM - More emphasis on defining the customer's needs and wants, translating these into accurate plans and specifications, and then performing construction in such a manner that the customer's expectations are met. Place emphasis on prevention not correction. The goal is work that is 100% free of errors, free of accidents and free of waste (rework).

(Page 48-49) Drive fear out of the organization. Employees must be free to communicate their ideas. This will not happen if there is fear of consequences.

- Leadership Training.
- Counsel counterproductive managers.
- Have an open-door policy.
- Meet and listen to employees.
- Walk around.

(Page 51-56) Vision statement is a declaration of what a company wants to be in the future Mission statement is what a company does. Goals and objectives provide specific, measurable targets. Guiding principles define a company's viewpoints.

(Page 61-68) Focus on the customer. There is often a gap between what a customer expects and what the company performs.

- On time.
- Safely.
- On or under budget.
- Quality.

(Page 85-96) Focus on employee. "Empowerment". Effective suggestion system.

(Page 99-102) The cost of quality. Accidents, waste, rework, inefficiency, poor communication, poor subcontractor and supplier performance cost contractors 5% to 30% of construction cost. Prevention costs such as inspection, additional supervision and more administration add with the above to make quality a cost-saving alternative. Include intangible costs such as customer satisfaction and quality becomes the only alternative.

(Page 109-111) TQM empasizes improving processes.

- Reduce resources.
- Reduce errors.
- Meet customer expectations.
- Safety.
- Make process more satisfying to employee.

(Page 119) Eight tools of quality:

- Flowcharts.
- Cause and effect diagrams.
- Pareto diagrams.
- Run charts.
- Control charts.
- Histograms.
- Check sheets.
- Scatter diagrams.

(Page 141-152) Partnering:

- Commitment.
- Equity.
- Trust.
- Development of mutual goals and objectives.
- Implementation.
- Continuous evaluation.

- Timely Responsiveness.

(Page 165-170) Malcolm Baldridge Award criteria:
- Leadership.
- Information and analysis.
- Strategic quality planning.
- Human Resource development, management.
- Management of process quality.
- Quality and operational results.
- Custoer focus and satisfaction.

(Page 179-187) Potential obstacles:
- Comfort factor.
- Lack of upper management support.
- Resistance to change.
- Skepticism and mistrust.
- Authoritarian behavior.
- The press of current business.
- We're already doing TQM.
- Up-front costs.
- Failing to do all of TQM.
- Progress may stall.
- Lack of constancy of purpose.
- Mobility of management.
- Using visible figures alone.
- Hoping for instant pudding.
- Using new technology alone.
- Copying without understanding.
- Believing our problems are different.
- Relying on quality control.
- Relying on specification minimums.

(Page 189) ISO 9000

Covey, S.R., 1989, <u>The 7 Habits of Highly Effective People</u>, 1st Edition, Fireside (Simon & Schuster), New York, NY

(Pages 46-62) Interdependence is greater than Independence, which is greater than Dependence.
The 7 Habits:
1. Be proactive.
2. Begin with the end in mind.

3. Put first things first.
4. Think win/win.
5. First understand, then be understood.
6. Synergize.
7. Sharpen the saw.

(Pages 81-88) Circle of Influence vs. Circle of Concern.

(Pages 101-103) Leadership vs. Management

(Pages 106-144) Developing personal mission statements.

(Pages 173-179) Delegation.

(Pages 190-198) Emotional deposits:
1. Understand the individual.
2. Attend to the little things.
3. Keep commitments.
4. Clarify expectations.
5. Show personal integrity.
6. Apologize sincerely.

Covey, S.R., Merrill, R.A. and Merrill, R.R., 1994, First Things First, Simon & Schuster, New York, NY

A continuation of Covey's 7 Habits.

Cox, LCDR A.J., 1994, "TQL can be implemented successfully, if you have a plan", Navy Civil Engineer, Vol. XXXII No. 2, NAVFAC, Alexandria, VA.

"TQL is a systematic leadership and management approach to continuously improve, through the participation of all levels and functions of the organization, goods and services to satisfy the customer." The basics to TQL are continuous improvement, customer orientation and teamwork. Implementing TQL is painful because top management doesn't like giving up the reins of power, middle management may find their jobs abolished and front line workers don't like to adjust to changes.

The plan for implementation must include timing, a way to ease into it, and communication. This can be done with a strategic plan that includes a mission statement, trend identification, vision statement and the identification of vital issues.

Once implemented, TQL must be institutionalized. To be successful in the long run, celebrate successes, make TQL a routine process, and persevere over obstacles.

Crosby, P.B., 1980, Quality is Free, Penguin Books USA, New York, NY

Quality is conformance, and the cost of quality is measurable as a cost savings to the organization.

Deming, W.E., 1993, The New Economics for Industry, Government, Education, MIT Center for Advanced Engineering Study, Cambridge, MA.

(Pages 10-11) What business are we in?
(Pages 22-49) Heavy losses.
(Pages 67-79) Destruction of a system by competition.
(Pages 128-157) Role of a manager of people.

Deming, W.E., 1986, Out of the Crisis, MIT Center for Advanced Engineering Study, Cambridge, MA.

DePree, M., 1989, Leadership is an Art, Dell Publishing, New York, NY.

(Pages 1-12) "The first responsibility of a leader is to define reality." Leadership is responsible for liberating people to do what is required of them in the most humane way possible (Polishing, Liberating, Enabling). A Leader understands and accepts diversity, abandoning himself to the strengths of others. "The measure of leadership is not the quality of the head but the tone of the body."

(Pages 15-29) Leaders serve:
- Responsible for effectiveness.

- Provide and maintain momentum.
- Develop, express and defend civility and values.
- Respect people and diversity.
- Understand that what we believe precedes policy and practice.
- Understand that relationships count more than structure.
- Understand the roles and differences of contractual agreements and covenants.

"Would you rather work as a part of an outstanding group or be a part of a group of outstanding individuals."

(Pages 36-43) The rights of work:

1. The right to be needed.
2. The right to be involved.
3. The right to a covenantal relationship.
4. The right to understand.
5. The right to affect one's own destiny.
6. The right to be accountable.
7. The right to appeal.
8. The right to make a commitment.

(Pages 45-51) Hierarchical vs. Roving Leaders.

(Page 60) Covenantal Relationships - shared commitment to ideas, issues, values, goals and management processes.

(Pages 101-108) Communication.

(Pages 111-112) Signs of entropy - deterioration signals:

- Superficiality.
- Dark tension among key people.
- No time for celebration and ritual.
- A feeling that rewards and goals are the same thing.
- When people stop telling/understanding tribal stories.
- The acceptance of complexity and ambiguity.
- Differing understandings of words like "responsibility", "service" or "trust".
- Problem-makers outnumber problem-solvers.
- People confuse heroes and celebrities.
- Leaders seek to control instead of liberate.
- Day-to-day operations more important than vision.
- Business school rules replace value orientation.
- Customers are looked at as problem-makers.
- Manuals.
- Quantifying the future.
- Leaders relying on structure instead of people.
- Loss of confidence in judgement, experience and wisdom.

- Loss grace, style or civility.
- Loss of respect for the English language.

(Page 113) Performance reviews.

(Pages 119-120) What's next?

Fundamentals of a Quality Culture, 1993, Class Notes, EFACHESNAVFACENGCOM, Washington D.C.

Gasset, J., 1932, The Revolt of the Masses, W.W. Norton & Co.,

"For there is no doubt that the most radical division that is possible to make of humanity is that which splits it into two classes of creatures: those who make great demands on themselves, piling up difficulties and duties; and those who demand nothing special of themselves, but for whom to live is to be every moment what they already are, without imposing on themselves any effort towards perfection; mere buoys that float on the waves."

Gerson, R., 1993, Measuring Customer Satisfaction, Crisp Publications Inc., Menlo Park, CA.

(Pg 5-7) If your customer is not satisfied, he will stop doing business with you. Customer satisfaction is the customer's perception that his expectations have been met or surpassed. The main goal in business is to produce a satisfied and loyal customer who will stay with you over time and who will refer business to you. Quality is whatever the customer says it is.

(Pg 14-18) Developing a customer service system:

- Total Management Commitment
- Know your customers
- Develop standards of service quality performance
- Hire, train and compensate good staff
- Reward service quality accomplishments

- Stay close to your customers
- Work toward continuous improvement

(Pg 19-20) Five techniques to implement superior service quality:
- Add value - give something for nothing
- Train your staff in internal quality measurement techniques
- Constant contact
- Reward programs
- Strategic alliances and partnerships

(Pg 25-30) Why measure quality and customer satisfaction?
- Learn about customer perceptions
- Determine customer needs, wants, desires, requirements and expectations
- Close the gaps
- Improved performance leads to increased profits
- Learn how you are doing and where you go from here
- Apply continuous improvement

(Pg 33) Tools for measuring quality.

Harrington, H.J., 1991, Business Process Improvement, McGraw-Hill, New York, NY

Herman, R.E., 1990, "Are you keeping good people?", Public Works, Vol. 120 No. 8, Public Works Journal Corp., Ridgewood, NJ.

Strategies for keeping good people and demographics of a tightening labor market.

Ivancevich, J.M., Lorenzi, P. and Skinner, S.J., 1994, Management Quality and Competitiveness, Irwin, Burr Ridge, IL

Jandt, F.E., 1985, Win-Win Negotiating: Turning Conflict into Agreement, John Wiley & Sons, New York, NY.

(Pg 1-6) "When the stakes are low, most of us seek the least unpleasant way out of a conflict." "We sometime sacrifice a major interest because we are unwilling to yield on a minor one."

(Pg 155-178) Negotiating from strength - power can not be seized, only given. "A" will have power over "B" only to the extent that "B" is dependent on "A" for the attainment of "B's" goals. "If they control what you want, and you control what they want, then you control what you want."

Kelso, F.B., 1991, "A day with Dr. Deming", Chief of Naval Operations, Washington, D.C.

Kelso, F.B., 1990, "Total Quality Leadership", Memorandum to all Flag Officers, Ser 00/00500214

Lanci, P., 1994, "The Myths of Quality", Constructor, Vol. LXXVI No. 5, Associated General Contractors of America, Washington D.C.

The quality myths:

- Quality programs best fit products and manufacturing.
- Quality is the QC Department's responsibility.
- Training is costly overhead.
- Better quality costs more.
- Improving quality takes time.
- Haste makes waste.

"Leadership and Management Education and Training (LMET)", 1991, Class Notes, Naval Education and Training Program Management Support Activity, Pensacola, FL

Little, J.C., 1994, "TQM Means Simply Better Service", APWA Reporter, Vol. 61, No. 5, American Public Works Association, Kansas City, MO.

Focus on training, customer service surveys, quality teams, self-led teams, team building, partnerships, performance measures and focus groups to achieve TQM and better service.

Mack, W., 1983, The Naval Officer's Guide 9th Edition, Naval Institute Press, Annapolis, MD.

Leadership - Behavior and Performance are functions of Motivation and Environment:

1. Self-knowledge.
2. Leading others to self-knowledge.
3. Moral values.
4. Self-confidence.
5. Courage.
6. Communication.
7. Loyalty.
8. Common sense.
9. Initiative.
10. Decisiveness.
11. Compassion.
12. Concern for efficiency and effectiveness.
13. Good management process.

Murray, S., 1991, "The Challenge not to Adjust", APWA Reporter, Vol. 58, No. 10, American Public Works Association, Chicago, IL.

As workforce demographics change, managers must learn to lead.

Phillips, CAPT R.J., 1994, "The Lemming Effect", Proceedings, July, U.S. Naval Institute, Annapolis, MD.

To recognize and prevent the atmosphere where ethics are overshadowed by circumstances, the following must be done:

1. Recognize the contributing causes.
2. Recognize ethical standards and moral behavior as a seamless garment.
3. Don't leave it to the lawyers.
4. Train and educate constantly.
5. Create safe havens.
6. Focus on the process.
7. Identify heroes.
8. Nurture the vision.

Radetski, A.S., 1994, "Self-Evaluation of TQM Efforts", APWA Reporter, Vol. 61, No. 5, American Public Works Association, Kansas City, MO.

Redefine employee roles by internalizing TQM philosophy, employee training and Process evaluation.

Reck, R.R. and Long, B.G., 1985, The Win-Win Negotiator, Simon and Schuster Inc., New York, NY.

(Pg 2) A manager can not be successful unless he can convince his subordinates to enthusiastically carry out his decisions.

(Pg 14) We are conditioned to the idea that every winner has to be offset by at least one loser. The problem with carrying this winner-loser philosophy over into your professional and personal lives is that no one, including yourself, wants to feel like a loser.

(Pg 26) STEP 1 - Win-Win Planning. Start by trying to understand what the other party wants. Agree on your own goals, anticipate other party's goals, determine areas of probable agreement, develop Win-Win solutions to reconcile areas of probable disagreement.

(Pg 40) STEP 2 - Develop Win-Win Relationships. Plan activities which allow a positive personal relationship to develop, cultivate a sense of mutual trust, allow the relationship to fully

develop before discussing business.

(Pg 54-67) STEP 3 - Form Win-Win Agreements. Reaching a satisfactory agreement is not the ultimate goal of negotiating, obtaining satisfactory performance is. Any agreement, no matter how favorable, is worthless if the other party choses not to honor it. Confirm the other party's goals, verify areas of agreement, propose and consider Win-Win solutions to reconcile areas of disagreement, jointly resolve any remaining differences.

(Pg 79) STEP 4 - Perform Commitment Maintenance. Maintain commitment by providing meaningful feedback based on performance and holding up your end of the agreement. Maintain the relationship by keeping in contact and reaffirming trust.

(Pg 84) PRAM Model - Plans, Relationships, Agreements, Maintenance.

Scherkenbach, W.W., <u>The Deming Route to Quality and Productivity - Road Maps and Roadblocks</u>, 1991, Mercury Press, Rockville, MD.

(Pg 9-11) The business process starts with the customer. Communication, specifications and requirements must be unambiguous and operational defined with the customer needs in mind.

(Pg 18-19) Higher quality costs less not more - less rework, lower costs, better competitive position, happier people on the job, more jobs.

(Pg 26) Every one in business manages processes. Every one in business has customers and suppliers and is both a customer and a supplier.

(Pg 34) "It pays to keep the customer satisfied: if a car owner likes his car, he's apt to buy four more cars of the same make over the following twelve years, says Technical Assistance Research Program, a Washington consulting firm that specializes in consumer behavior. The customer is also likely to spread the good news to eight other people. But woe to the car company that delivers a shoddy product. An angry car buyer will tell his troubles to an average of sixteen people."

(Pg 36) Improvement Opportunity = Customer's Needs - Process Performance

(Pg 41) Continually reduce the variability.

(Pg 55) People, methods, environment, equipment and materials are inputs to the process. The main assumption in rewarding or punishing people with performance appraisal systems is that they are solely responsible for the results of the process. Managers that are rated or payed with

respect to short term performance lead to short term thinking and death to planning.

Stromen, S., 1994, "The Private Owner's Perspective", Constructor, Vol. LXXVI No. 9, Associated General Contractors of America, Washington, D.C.

3M Corporation lists safety, partnering, quality, risk allocation and training as key priorities. Global competition combined with lower profits challenge the industry.

"Total Quality Leadership (TQL) Awareness Seminar", 1993, Seminar Notes, Chief of Naval Personnel, Washington D.C.

"Total Quality Management Tools", 1993, George Mason University.

Ury, W., 1993, Getting Past No: Negotiating your way from confrontation to cooperation, Bantam Books, New York, NY.

(Pg 4) "Negotiating is the process of back and forth communication aimed at reaching agreement with others when some of your interests are shared and some are opposed."

(Pg 6-9) Barriers to cooperation:

1. Your Reaction - striking back, giving in, breaking off.
2. Their emotion.
3. Their position.
4. Their disatisfaction.
5. Their power.

(Pg 10-13) Breakthrough strategy - indirect action to change the game:

1. Suspend your reaction - go to the balcony.

2. Step to their side - listen actively, acknowledge their points and feelings.
3. Reframe - ask problem solving questions.
4. Build them a golden bridge - show them your idea as theirs.
5. Use power to educate.

(Pg 39-40) Tactics:

1. Obstruction (stone walls) - go around.
2. Offensive (attacks) - ignore.
3. Deceptive (tricks) - expose.

(Pg 114) Cinese proverb "Tell me, Imay listen. Teach me, I may remember. Involve me, I will do it."

The Problem

Today's organizations are faced with an increasing threat of foreign competition. The world is fast becoming a global marketplace where inefficiency is rewarded with loss of market share and the inevitable closing of weaker businesses. Most of these established organizations are facing this type of challenge for the first time in their corporate history. Compounding this problem are management's view of the work force as unmotivated and unskilled, and the constantly changing technology necessary to maintain a competitive edge. Today's predominate management styles and the managers that practice them are not equipped to handle this challenge.

Many articles have recently been published extolling the difficulties of managing the poorly educated, unmotivated products of our educational system. Managers complain that the work force is not prepared to handle the highly technical environment that now exists in the work place. These same managers complain the diversity of work force makes it impossible to motivate employees, that teamwork is a thing of the past. Under existing management styles, their complaints are warranted.

The fact is that the entry level workers have grown up with the technology that these managers find difficult. It is a fact that many company presidents do not have nor do they know how to use personal computers. The poorly educated work force, on the other hand, has generally seen and used personal computers from grade school on. These workers are probably more prepared to

handle the training necessary for this "highly technical environment" than were their parents or grandparents. The school system is not to blame for this wrong perception. It is the fault of the predominate management styles.

According to the Hudson Institute, a research organization; "In a short time the U.S. work force will be transformed from predominantly white male to the most culturally, ethnically, racially and sexually diverse in the world." (Bauder 1990) The fear that this diversity will weaken the organization is another misconception of these management styles.

Diversity creates strength. Individuals have strengths and weaknesses. If each individual in an organization was the same, had the same strengths and weaknesses, that organization would be extremely vulnerable to those weaknesses. Managers must learn to embrace the diversity as it is the key to the organizations strength. Managers must learn that they must create the environment where diverse workers are able to openly communicate as a cohesive team in order to build on this strength (Murray 1991).

Management is looking in the wrong direction in its attempt to affix blame. The entry level work force is poorly educated and unmotivated because the managers have not educated or motivated them. In fact, the American work force is actually aging. Twenty years ago, forty per cent of workers were between the ages of 35 and 54. By the year 2000, this age group will represent 51% of the work force (Bauder 1990). Generally, as workers reach this age bracket, they assume some responsibilities akin to a position of management. The business and technology are drastically

different from the time when they were originally trained, but the organization and management styles are the same. This is where blame properly belongs.

Today's management styles stem from studies and writings done two centuries ago by Adam Smith, and a century ago by Frederick Taylor. These methods focus on improving discreet steps in a process with the hope that the process as a whole will thus improve. Most modern management methods have changed very little in regards to this idea. Workers are given increasing goals with decreasing resources, and are expected to perform. When problems arise, managers look to fix the blame on these workers instead of fixing the problems of the system.

The fact that our organizations are not surviving this increased competition makes it quite clear that these management styles are not prepared for the challenge.

The present and the future depend on creating a new work culture. This culture must provide the education and motivation that work force is being cheated out of with the present system. Organizations must recognize and truly believe that the work force far surpasses all of their other assets' worth combined. They must make the commitment and investment to not only protect, but to enhance that asset. As Thomas Watson, the founder of IBM, stated; "I believe that the difference between success and failure in an organization can very often be traced to the question of how well the organization brings out the great energies and talents of its people."

Leaders are required to guide the organization to this new culture. They must create a new

paradigm for the organization in which the work force is able to flourish. The leaders must create the vision and objectives for the organization. They must choose the correct paths toward that vision. They must inspire the organization to follow.

The leaders must refocus the organization on its customers. The organization needs to be reminded that the customer was the reason that it came into being in the first place. Without the customer, there is no need for the organization. Leaders must develop the concept that customers can be internal as well as external. They must strive for quality and continuous, incremental improvement.

The new philosophy, first introduced as Total Quality Management by Dr. W. Edwards Deming, aims to empower the individual with the skills, knowledge and dignity required to contribute to the organization (Aguayo 1990). Once instilled with the pride of workmanship, these individuals will cause the organization to grow in maturity and competitiveness. This philosophy examines the system as a whole and creates an interdependent synergy.

Organizations can either adopt this new paradigm or natural selection in the form of global competition will sacrifice them in order to make room for an organization that has.

What is Total Quality Leadership?

Total Quality Leadership is a leadership style that focusses on continuous incremental improvement of an entire system as a method to improve quality, productivity and worker motivation. Dr. W. Edwards Deming first developed and taught the basis for this system shortly after World War II as Total Quality Management (TQM). In 1950, Dr. Deming was invited by the Union of Japanese Scientists and Engineers (JUSE) to lecture on his philosophy (Aguayo 1990). TQM helped to transform Japan from a nation known for low-quality products to a nation that produced high-quality products. His philosophy was so successful that the war devastated Japanese economy was able to become a world leader within thirty years. JUSE, in recognition of Dr. Deming's service, established the prestigious Deming Prizes to recognize companies with the most outstanding achievements in quality control.

Dr. Deming's philosophies were adopted and modified by the United States Navy in 1990, by then Chief of Naval Operations Admiral Frank Kelso. The name was changed to Total Quality Leadership (TQL) and the philosophies modified accordingly to recognize the Navy's role as leaders instead of managers. Admiral Kelso went on to state:

"Today's demanding geopolitical and fiscal environments pose unique challenges and offer unique opportunities for the Navy. More than ever, we need to do our jobs efficiently and safely. Flexibility, responsiveness and readiness, our hallmarks, will increasingly characterize naval operations of the future. The growth which characterized the Navy in the Eighties will not continue into the Nineties. While we work to ensure we have the resources available to do the job with an acceptable degree of risk, we will not have the quantities available to us we have had in the past. That is the reality of 1990 and beyond. We need something to take up the slack, and that something is quality. Combat readiness is the Navy's product, and that remains the constant in the equation. However, quality will become ever more important as our overall force levels and budgets decline. In business terms, we need to achieve and maintain the superiority of the Navy product and improve it continuously. Slick hype campaigns and catchy slogans are not what I have in mind. Nor do I want to impose another checklist or inspection upon our people. Instead, I want us to structure a quietly effective effort to improve quality in the Navy which makes sense to our people, helps them get the job done properly, and helps us all manage our resources better. The Navy already is the leader in applying quality-centered management in the shore establishment. Their approach is called 'Total Quality Management,' or TQM. This management philosophy, taught in Japan by Dr. W. Edwards Deming, has been credited with many of the dramatic successes of Japanese industrial production and their revolutionary improvements in quality. I want to continue that initiative ashore and expand it to include the Operating Forces. I've decided to call our approach...'Total Quality Leadership' because of the unique role that Navy leadership plays in developing and implementing our operational objectives. Since TQM is a management philosophy, we will need to adapt its approach and techniques to the Navy operational environment..."

(Kelso 1990)

In 1991, Dr. Deming was invited to speak to over 600 of the Navy, Marine Corps and U.S.

Coast Guard Flag Officers and Senior Executive Service members in order to initiate the Navy's TQL program. Then Secretary of the Navy H. Lawrence Garrett III started the presentation with a quote from Dr. Deming - "Everyone doing his best is not the answer". The Secretary pointed out that everyone is already doing their best. "They are smart, they are dedicated, they work hard, and it makes no sense to just say to them: 'You've got to do better.'" (Kelso 1991)

TQM and TQL are based on three simple tenets. The first is that quality must be built in and continuous incremental improvement must take place in order to yield a quality product or service. The second is that employees are not the primary cause for errors, but that the system is. The third is that the system must by viewed as a whole (Radetski 1994). These ideas differ from conventional management styles such as Management By Objective (MBO) and Management By Walking Around (MBWA) by focussing on the entire system and concentrating on preventative measures instead of corrective ones. MBO and MBWA break the system into incremental stages and attempt to optimize those stages. These stages are measured against goals which are often independent and may be counterproductive with respect to the entire system. In addition, MBO establishes a merit system to make employees work better or harder in order to improve productivity and therefore profit. The merit system constantly sets higher goals as previous goals are met. It is based on the theory that each individual doing their individual best is the key to the company's improvement. TQM and TQL show that it is not physically possible for humans or machines operating in the same system to continually reach higher productivity levels with less resources.

The best known example of this is Dr. Deming's Parable of the Red Beads (Deming 1993) During his lectures, Dr. Deming would ask for ten volunteers, no experience necessary, to work for his company. The company produces white beads from a raw material that contains both red and white beads (800 red to 3200 white). Six volunteers are employed as workers, two as inspectors, one as Inspector General and one as recorder. The beads are placed in a box and the workers are given a paddle with 50 holes that will be used to scoop out exactly 50 beads at a time. The workers are told that their jobs depend upon performance and that their performance is judged by the number of defective red beads they produce. The inspectors count defective beads independently and the Inspector General compares the results of the two inspectors and reports to the recorder. Deming would state that; "There is no variation in the method, therefore there should be no variation in the results. Pay is based on the merit system. We reward good performance."

The six workers each use the paddle to produce 50 beads, considered a days work, and their defective red beads are recorded. This process is continued so that each worker has a chance to produce four days worth of results.

	Day				
Worker	1	2	3	4	Total
#1	9	11	7	8	35
#2	6	11	11	9	37
#3	12	7	5	5	29
#4	11	10	13	9	43
#5	14	8	9	11	42
#6	4	11	12	12	39

After Day 1, Worker #6 is given a merit based pay raise. Obviously the raise did not work, because on the following day his performance dropped. After Day 2, workers were told that Day 3 would be a "Zero-Defect Day". Posters and bulletins with catchy slogans are put on the walls. Unfortunately, Day 3 results are not any better. Management decides that it can not make a profit if performance does not increase and tells the workers that they will all be laid off if the number of defects produced on Day 4 does not drastically decline. Day 4 turns out to be a disaster. Management decides to fire the three worst performers and let the three best stay and work a double shift. In fact, management lets them become a self-managing work team, as long as they do not change anything. The results are disappointing. Worker #1 produced 16 defects on the first shift and 11 on the second. Worker #2 produced 8 and 10 respectively, and worker #3 produced 6 defects on the first shift and 9 on the second.

The lesson from this experiment is that employees can only perform to the level of the system. Even the best three workers, as demonstrated by past performance, can only maintain the average performance allowed by the system. In fact, in this experiment, Workers #4, 5 and 6 have the same chance to do well in the future as Workers #1, 2 and 3. Each worker averaged about 9.5 defective red beads per day. Without changing the system, such as by changing the red to white bead ratio, this average will not change regardless of who the worker is. No amount of posters, slogans or merit pay promises can increase productivity within the same system. Therefore, meeting increased objectives within the same system may not be possible, regardless of how determined the employees are.

Another problem with MBO and MBWA is sub-optimization. Optimization of discrete parts

of a system does not lead to an optimized system. Given objectives, employees may move mountains to achieve their goals even if the net effect is bad for the organization. This occurs in real life every day in both the manufacturing and service industries. I had a job that required me to recruit and conduct interviews for prospective employees. I was assigned all Universities East of the Mississippi and had an office in Washington D.C.. As part of the job, I logged many hours on airplanes. My Travel Department was responsible for booking my flights based on the destinations that I provided. The Travel Department was tasked by the organization with saving money. The department managers developed rules to help achieve this tasking. Two of my favorite rules were that the traveler had to fly out of the airport, National, Dulles or BWI, with the cheapest flight and the traveler would fly at times when rates were cheapest, usually early in the morning.

I lived in suburban Maryland with easy access to BWI, about 20 miles away with very little traffic. National Airport was only 30 miles from my house, but took an extra 30 minutes travel time because of traffic and parking. Dulles was the furthest from my house, about 50 miles away.

I would usually schedule five geographically proximate universities per week, allowing me a day in the office to take care of paperwork. The first trip that I scheduled with the Travel Department, I naively assumed that their job was to make my job easier by providing me with a service. I quickly discovered that they viewed their job as saving money. They scheduled me to fly out of National on a connecting flight before dawn because it was fifteen dollars cheaper than a later, direct flight out of BWI that arrived at my destination at the same time. In addition, I had to provide a justification statement in order to return into National, where my car was parked, instead of Dulles where a flight was $25 cheaper.

I arrived at my first destination already exhausted and at a lower performance level. By the time I returned to my office, I was an extremely angry customer determined to change or find a way around the system.

Another example is the personnel director that was given the management objectives of reducing turnover and increasing the use of the company's training program. She conducted a survey and discovered that people with less education stayed at her firm longer than those with more education. She made a concerted effort to hire those with the least education and avoided hiring anyone who seemed too creative. She achieved her first objective by filling the company with lower potential employees. She tackled her second objective by sending employees through the same training program two and three times. She met both her objectives and was congratulated for an outstanding job by the chairman (Aguayo 1990).

An example that ties all three of the TQL tenets together would be the downfall of RCA television manufacturing. Twenty years ago, RCA was an innovative leader in the production of televisions. At one point, RCA decided to cut costs and increase profits by using cheaper parts. Unfortunately, the cheaper parts were of a lower quality which meant that many more sets failed within the warranty period. Repairing the television sets was more expensive than replacing them. In addition, RCA had additional administrative, shipping, storage and personnel expenses adding up to about 25% of the manufacturing price in order to handle the defective sets. In the end, low quality, cheap parts actually meant lower profit. Even worse for RCA was the unmeasurable costs of the

television sets that failed after the warranty period. Even though there were no direct costs for RCA because the sets were beyond the warranty period, it is doubtful that those customers would buy another RCA product (Aguayo 1990). In fact, the Technical Assistance Research Program, a Washington based consulting firm that specializes in consumer behavior, states that a car owner that likes his car is apt to purchase four more of the same make over the following twelve years and is likely to tell eight other people of their joy with the product. An angry car buyer, on the other hand, is likely to tell his troubles to sixteen potential customers (Scherkenbach 1991).

TQL is the path to avoiding these problems. Total Quality Leadership is a philosophy that establishes quality in a system. It is a systematic leadership approach based on continuous, incremental improvement of goods and services to satisfy the customer's expectations, through the participation of all levels and functions of an organization (Cox 1994).

Dr. Deming's original philosophy has been summarized into his now famous 14 Points, otherwise known as his management obligations. These 14 Points are crucial to the development of a Total Quality Leadership Culture within an organization. These 14 Points are described in detail below.

1. Create constancy of purpose for improvement of product and service.

Scherkenbach, a management consultant, states that "Maintaining constancy of purpose is a problem of the range of dispersion. It is a problem of today which directly affects the opportunities

of tomorrow. Even if the aim is focused on the center of the target, if the rest of the company doesn't follow the course, if everyone is off doing his best without knowing what to do, the results will not live up to management's expectations." (Scherkenbach 1991)

One of the leading contributions to a company's downfall is the lack of or improper long-term, strategic planning. A series of consecutive short-term plans will not provide a strategic focus and lead to no guarantees of final direction or orientation for an organization. A short-term planning focus will only lead to short-lived organizations. One Japanese company views this concept seriously enough to have developed a 200 year plan.

Strategic plans are meant to portray the overall picture or focus. To be effective, they must be relatively general, comprehensive and long-term. They should focus on general issues meant to ensure the organization's survival and effectiveness over many years (Ivancevich, Lorenzi and Skinner 1994). They are necessary to succeed in today's marketplace due to the increase in organizational complexity, the increased global competition as well as the time span between present decisions and future results. Strategic plans are powerful management tools that help coordinate organizational efforts toward the company's goals. They should state where the organization is going, how long it will take to get there and how the organization will know that it has arrived. Three important ingredients to developing the strategic plan are the Vision Statement, the Mission Statement, and developing the organization's goals and objectives.

The Vision Statement is a documented plan of action for organizational improvement toward goals, used for determining and documenting the long-term direction and focus of the organization

It can be summed up by professional hockey player Wayne Gretsky; "I skate to where the puck is going to be, not where it has been." Every organization strives to make progress. Progress can only be measured in terms of what one is attempting to make progress toward, and the clearer the idea of what progress one is trying to reach, the greater the chance of achieving that progress. The Vision Statement should embody the collective values and aspirations of an organization and its individuals. It must be a clear and challenging statement of how the organization wants to be viewed by their competition, their customers and their employees. All employees must have the feeling of having participated in its development in order to become focused and excited about it.

The American Heritage Dictionary defines Vision as:

a The faculty of sight. Something that is or has been seen.
b Unusual competence in discernment or perception; intelligent foresight.
c The manner in which one sees or conceives of something.
d A mental image produced by the imagination.
e The mystical experience of seeing. Supernatural.
f Farsightedness. Foresight.

The benefits of a Vision Statement come mostly from its development. In order to write a Vision Statement, the organization must focus on and answer some tough questions. What do we want to achieve? How do we get there? How long will it take to get there? How will we know if we are on the right path? How do we measure our progress? How do we know when we have

arrived? How do we know if our destination is still valid and is still where we want to be headed? Once completed and "bought off" by the entire organization, the Vision Statement helps to direct action by eliminating impulsive, unplanned or unorganized activities that would otherwise drain an organization's resources.

To be effective, a Vision Statement must be goal oriented. Goals are future states or conditions that contribute to the fulfillment of the organizations mission or sense of purpose. The Vision Statement must explicitly state the desired outcome of the organization. It should also be time-phased. The Vision Statement can indicate a time schedule or deadline for reaching the goal, such as target dates and milestones. The Vision Statement should specify criteria or checkpoints for evaluating accomplishment of the goal so that progress will be measurable. In addition, it should be action-specific, so that the steps necessary to achieve the goal are specified. This can be accomplished by breaking the goal into subtasks and associated durations, organizing the subtasks into an appropriate order of performance, and assigning responsibility for their completion.

Above all , the Vision Statement must be participative and dynamic. All employees, and to the extent possible, customers, should be given the opportunity to participate in its development. There is a lot of truth in the old Chinese proverb; "Tell me, I may listen. Teach me, I may remember. Involve me, I will do it." Dynamic simply means that it must be a "living document". It should be developed as a decision base and not to collect dust in the company propaganda bin. Therefore it must be constantly updated and upgraded to reflect changing conditions.

The following are examples of some Vision Statements in use.

U.S. Naval Facilities Engineering Command

By the year 2000, we are the premier provider of quality facilities and services delivered by customer focused, highly motivated professionals using innovative technology and sound business practices.

- We provide quality services and facilities that support mission requirements, family and bachelor housing, family support functions, and morale and welfare activities.
- We provide public works support with quality and timeliness as the primary aim in sustaining properly maintained shore and support facilities.
- We provide the best shoreside environmental services through focus on customer and regulator needs.
- The Seabees are trained and equipped to respond to the volatile and unpredictable nature of worldwide threats and natural disasters. Our Naval Construction Battalion Centers are outstanding homeports providing quality logistics support.
- We develop proactive and effective policies, procedures and organizational structure to execute our responsibilities for base closure and realignment decisions. (Fundamentals of a Quality Culture 1993)

Oakview Construction Company, Inc.

We must create a culture within our company that will in turn create quality minded employees and then superquality performance. Building quality through teamwork is our answer.

By integrating this total quality process within ourselves, we will become that **premier provider of construction services ....**

By continuously improving our performance, we will work to provide our customer with ... perfect project performance!

Let us commit right now to get total employee dedication to Building Quality Through Teamwork which will not only insure that our volume goals are met, but more importantly, that our employees have an enjoyable, secure, profitable workplace. (Chase 1993)

As a Vision Statement is a declaration of what and where an organization wants to be in the future, a Mission Statement is a declaration of what an organization is in business to do and how it should be doing it. The Mission Statement should be developed in the same manner as the Vision Statement based on answering the following questions: Who are our customers? What are their needs? How do we help satisfy their needs? What do we provide for our customers that no other organization can? How do we ensure that we are providing the best products and services? Why are we in business? Is this the business we want to be in?

The following are examples of Mission Statements (Chase 1993).

Rogers - O'Brien Construction Company

Rogers - O'Brien Construction Company is in existence to provide quality general contracting services in an ethical manner and at a fair profit, while maintaining controlled growth in a safe, stable and rewarding environment for employees.

The Walbridge Aldinger Company

We are in the business of providing the best construction-related services that exceed our customers' expectations. This will be achieved through the commitment of a responsive team of experienced professionals.

Both the Vision and Mission Statements should stem from and reflect the organization's goals and objectives. The goals and objectives are the specific targets established by the organization. These must have an established action plan that starts from existing conditions and describes in detail

the final condition, the path to arrive at that condition and measurement points along the way.

The following exercise can be used or modified for use at the employee level in order to facilitate the development of the Vision Statement, Mission Statement, goals and objectives for the organization.

1. Name:
2. Who is your immediate supervisor?
3. Who do you supervise?
4. What is your job title?
5. What do you *really* do?
6. Where or to who does your work go next?
7. Where or from who do you get the resources you need to produce your work?
8. How good are you at your job?
9. How do you measure how good you are?
10. How good would you like to be?
11. How can you become that good?
12. How can you measure your progress?
13. How will you know when you have met your goal?

In this example, questions one through three help develop the organizational chain of command. Questions four and five form the individual's Mission Statement. Question six yields the individual's customers and seven gives the suppliers. Question ten helps to develop the employee's Vision Statement, and eight through thirteen are the goals and objectives. For small organizations, these results can be used directly in developing the overall strategic plan. For larger organizations, they can serve as a basis in developing an organization focused questionnaire.

2. Adopt the new philosophy.

This philosophy is new because it shows that the traditional management approach to quality is not only wrong, but destructive. Traditionally, increased quality was thought to necessitate increased inspection, increased cost and decreased production. In reality, increased quality reduces the need for inspection, the need for rework, the need for large inventories and the amount of scrap produced. Therefore, an increase in quality actually reduces cost and increases production.

Unfortunately, most people have a natural aversion to change. The reason for this resistance was first noticed by Niccolo Machiavelli in the year 1513. "And it ought to be remembered that there is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new."

It takes courage and leadership to initiate and maintain any new philosophy. Consider for example an 1829 letter by Martin Van Buren, then Governor of New York, to President Andrew Jackson.

Dear Mr. Jackson:

The canal system of this country is being threatened by the spread of a new form of transportation known as "railroads." The federal government must preserve the canals for the following reasons:

- If canal boats are supplanted by "railroads," serious unemployment will result. Captains, cooks, drivers, repairmen, boat builders and lock tenders will be left without means of a livelihood, not to mention the numerous farmers now employed in growing hay for horses.

- Canal boats are absolutely essential to the defense of the United States. In the event of the expected trouble with England, the Erie Canal would be the only means by which we could ever move the supplies so vital to waging modern war.

The government should create an Interstate Commerce Commission to protect the American people from the evils of "railroads" and to preserve the canals for posterity.

As you may well know, Mr. President, "railroad" carriages are pulled at the enormous speed of 15 miles per hour by "engines" which, in addition to endangering life and limb of passengers, roar and snort their way through the countryside, setting fire to crops, scaring the livestock and frightening women and children.

The Almighty certainly never intended that people should travel at such breakneck speed...

As can be seen from this example, our management systems have been designed to avoid and resist change. In fact, throughout history, most change has occurred due to two primary reasons; fear of consequences of not changing or the excitement of potential benefits. In order for an organization to change, its individual employees must change. A paradigm shift is required before the employees

will buy into this change. This shift must occur at all levels, but must be championed by the executive management level.

3. Cease dependence on inspection to achieve quality.

This requires managers to understand that not even 100% inspection will ensure quality Quality is built into the product or service by the process. Therefore, any quality problems or opportunities for improvement must come from the process.

Under traditional management, detection of defects is accomplished by mass inspection. Those products passing inspection are sent on to the customer and those failing are scrapped or reworked. Because it costs as much to produce a defective product as it does to produce one that passes, enormous waste and expense is built into this system. This expense is further compounded by the cost for rework, scrap disposal, the inspection itself and, most importantly, the cost of the dissatisfied customers that receive a defective product that escaped detection.

4. End the practice of awarding business on the basis of price tag alone.

Lowest price does not mean lowest total cost. Every manager must make determinations based on lifecycle costs. Quality, uniformity and reliability all have a real and tangible value and should, therefore, be considered in addition to price.

Every supplier tries to develop and maintain a customer base. As suppliers, organizations generally strive to keep their customers loyal to their products or services. Where these organizations proactive feedback to their suppliers can not remain competitive and satisfy their own customers. Dr Deming says; "An educated customer may have a firm idea about his needs, what he would wish to purchase. He may be able to specify these needs so that a supplier may understand them. A wise customer will nevertheless listen and learn from suggestions from suppliers. They should work together as a system, not as one trying to out do the other." (Deming 1993)

A simple example highlights the necessity of this point. If a home owner decides to paint his house with the ten dollar a gallon bargain paint instead of the twenty dollar a gallon quality paint, he may find that he has to use twice as much paint and twice as much of his own time to do a second coat when one coat of the quality paint would have left a better finish. The home owner, looking for a bargain, spent the same amount of money and twice as much time for a finish that will probably not last as long as if he had done the job right in the first place.

This example is further magnified by the fact that modern organizations are structured in a way that the purchasers are rarely the end users. An employee may identify a need and fill out a purchasing request. The request is probably filtered through several layers of management before it finally reaches a purchasing clerk. Generally, the purchasing clerk has little or no idea of how or why the request is needed, but follows standard procedures to fill the order with the cheapest product available. If, by some miracle, the requestor actually gets the exact product desired, it was probably because the requestor provided research and justification in filling out the request.

In addition, organizations should strive to develop and maintain long-term relationships or partnering. Suppliers should be chosen on criteria as developed by the organization in addition to price. Once the suppliers are secure in the relationship, they can begin to implement and improve statistical control of their product, and to suggest ways to improve the system even more. Because the success of the supplier is tied to that of its customer in such a long-term partnership, the adversarial relationship transforms into a mutually beneficial synergy.

The following table illustrates the benefits of Dr. Deming's point. (Oswald and Burati 1992)

Old Paradigm	New Paradigm
Low bid	Low total cost
Procurement based entirely on price	Procurement based on best total value
Short-term relationships	Long-term focus
Adversarial environment	Mutual trust, respect and confidence
Self-centered economic objectives	Mutual economic benefit
Expediting and inspecting	Prevention and audit
Vaguely stated requirements	Clear communication
Mechanical attention to requirements	Mutual understanding of underlying needs
Numerous suppliers	Fewer, more qualified suppliers
"Acceptable Quality Levels"	Reduction of variability
Minimal use of statistical quality control	Emphasis on statistical quality control
Few or no objective measures	Measurement a central aspect of performance
"It's good enough. Ship it."	Pride of workmanship

Sherman Stromen, manager of construction for 3M, states: "We have initiated a nationwide program of preferred contractors that basically will do all of our cost-plus work for us. We think it's good for us, and the contractor." 3M uses prequalification in order to select these contractors Some of factors, other than price, that 3M uses are: (Stromen 1994)

- What is the contractor's previous experience with a specific type of work?
- What was the size of the contractor's largest project?
- What is the contractor's yearly volume of work, current list and status of projects?
- How much of the work does the contractor's firm perform itself?
- What kind of reputation does the contractor have?
- What are the contractor's financial capabilities?

Another reason that this point is important is that a supplier who has been partnered with a company for a number of years and is familiar with that company's operations, has a much better understanding of how, where and why their product is to be used. The communication between the partners is beyond what could ever be achieved through specifications. The time, money and energy wasted in developing specifications in order to describe the product or service needed could be recovered, and put to use more effectively for the organization. For the typical five-million dollar construction project, the specifications may be five inches thick. Even if the specifications were two feet thick, they could not possible describe the project in enough detail to remove the chance of an incorrect interpretation.

Dr. Deming's 14 Points

1. Create constancy of purpose for improvement of product and service, with the aim to become competitive, stay in business, and provide jobs.
2. Adopt the new philosophy. Managers must awaken to the challenge, must learn their responsibilities, and take on leadership for change.
3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection a mass basis by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price tag alone. Instead, minimize total cost. Move toward a single supplier for any one item on a long-term relationship of loyalty and trust.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.
6. Institute training.
7. Institute leadership.
8. Drive out fear, so that everyone may work effectively for the organization.
9. Break down barriers between departments.
10. Eliminate slogans, exhortations, and targets for the workforce.
11. Eliminate numerical quotas.
12. Remove barriers that rob the worker of pride in workmanship. The responsibility of supervisors must be changed from stressing sheer numbers to quality.
13. Institute a vigorous program of education and self-improvement.
14. Put everyone in the organization to work to accomplish the transformation. The transformation is everybody's job.

5. Improve constantly and forever the system of production and service.

Management is responsible for the system as shown in Dr. Deming's Red Bead experiment. Management's job must be to constantly pursue reduction of process variation as this will invariably lead to higher quality and decreased costs. According to this philosophy, there are four ways to improve the quality of products and services: (Aguayo 1990)

1 Creating a new product or service.

2 Establishing a new process that creates or delivers the product or service.

3 Improvement of the existing product or service.

4 Improvement of the existing process that creates or delivers the product or service.

These four methods can not be used independently. At the turn of the century, there were any number of horse carriage craftsmen that took great pride in their work and produced quality products. Many of these firms continuously strived to improve their products, but were put out of business nonetheless with the proliferation of the affordable automobile. Many carburetor manufacturers learned the same lesson the hard way with fuel injection systems.

The term "improve constantly and forever" is the process of continuous improvement. Dr. Deming calls this the Shewhart Cycle, after his colleague Dr. Walter Shewhart, otherwise known as the Plan - Do - Check - Act (PDCA) Cycle. The first step is to plan the quality improvement. The second step is to produce a sample, either physically or through computer modelling. This should be done on an appropriate scale to yield realistic results at an affordable cost. The third step is to check the results achieved against the plan's prediction. The fourth step is to implement the process. The PDCA Cycle does not end here. The next step is to start the cycle again at the plan phase, and continue forever.

The Shewhart Cycle

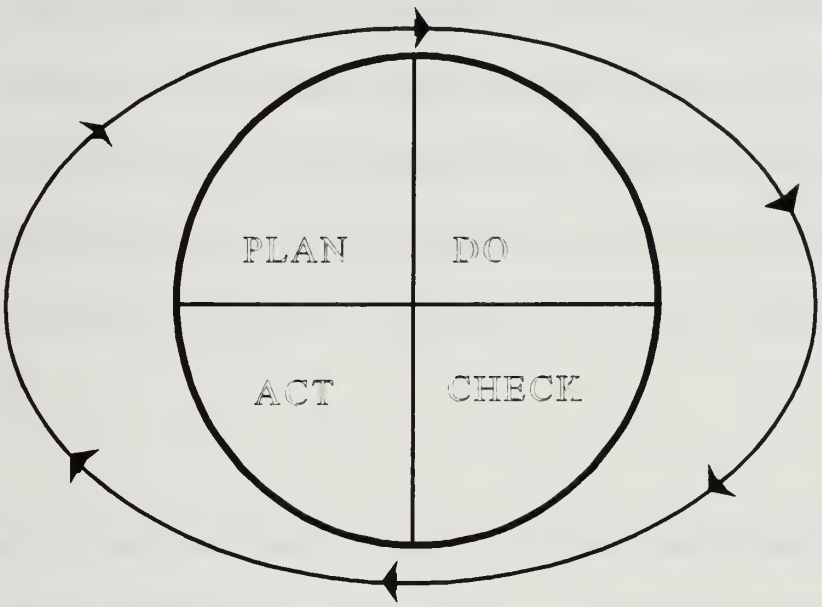

Figure 2.1: The Shewhart (PDCA) Cycle

Procter & Gamble used this cycle to improve its environmental quality efforts, reducing their pulp mill cut landfill dumpings by 75 per cent and cutting solids in sewage by 75 per cent. By using this technique in their packaging, they have cut 3.4 million pounds of waste in deodorant product cartons and the redesigned Crisco bottle uses 28 per cent less plastic. (Ivancevich, Lorenzi and Skinner 1994)

As part of Dr. Deming's fifth point, process variation must be continuously, incrementaly

reduced. Reduction in variation leads to increased quality, increased production and decreased costs An example of this was shown in the manufacturing of an automatic transmission for front-wheel-drive automobiles. A plant in the United States and a plant in Japan each produced the transmissions from the same specifications. The Japanese transmissions used less than thirty per cent of the tolerance allowed, while the American transmission used seventy per cent of the tolerance. Even though both production facilities met the engineering specifications, the Japanese transmissions were lower in cost and produced one third lower warranty costs than their American counterpart. (Scherkenbach 1991)

Every system or process has an inherent variability. This was demonstrated in Deming's Red Bead experiment. Quality comes from reducing that variability. Specifications are meant to generate an Upper Control Limit (UCL) and a Lower Control Limit (LCL) around the customer's target. This can be visualized graphically for the above example.

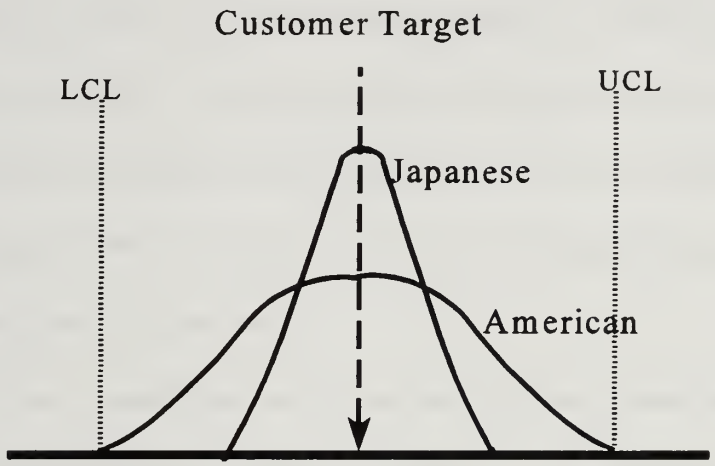

Figure 2.2: Targets vs. Control Limits

6. Institute Training.

Unfortunately, most organizations view training as an overhead expense. When the order comes down to reduce costs, training is usually the first to go. Management rarely recognizes their responsibility to train their employees. They tend to view training as an unimportant collateral duty that can be delegated or ignored instead of one of their most important assets. Training improves the system by increasing quality, reducing costs and instilling pride of workmanship into employees.

The biggest mistake that companies that do have a training program make is that they assign trainers arbitrarily. In elementary school when we first learned about communication, we all

participated in the "Circle Experiment". One person whispers a short message to the person next to them, who passes it on around the circle until it reaches the originator again. By the time the message makes it through the circle, it has been drastically altered. Arbitrarily assigning trainers to new employees has the same effect. One person should be designated in each specialty, based upon their profound knowledge in that subject, to train all employees. This is not a new idea. When our society was based on apprenticeships, a master in the craft or skill would train new apprentices until they demonstrated sufficient skill to move on.

There is also a theory that once a new skill has been learned incorrectly, it is extremely difficult to re-learn that skill correctly (Aguayo 1990). An example of this is languages. Foreign languages aside, how many people learned to speak their native language incorrectly and were never able to unlearn bad habits.

Finally, training should not be limited to the obvious skills required to perform the work. It should be extended to include statistical methods, team building and professional development.

7. Institute Leadership.

Leadership is not the same as management or supervision. Management is doing things right, while leadership is doing the right things. Stephen Covey, a management consultant uses the following parable to illustrate this difference. "Envision a group of producers cutting their way through the jungle with machetes. They're the producers, the problem solvers. They're cutting through the undergrowth, clearing it out. The managers are behind them, sharpening their machetes,

writing policy and procedure manuals, holding muscle development programs, bringing in improved technologies and setting up working schedules and compensation programs for machete wielders. The leader is the one who climbs the tallest tree, surveys the entire situation, and yells, 'Wrong jungle!'" As Covey points out, the managers often respond, "Shut up, we're making progress!" (Covey 1989)

Leadership is required if any change is to be successful. Change, as pointed out earlier, does not come easy. There will be difficult decisions that need to be made, and there will be times when the organization will not want to continue with the change. Without a leader to act as champion, the program is doomed to failure. In 1932, Spanish philosopher Jose Ortega y Gasset wrote, "For there is no doubt that the most radical division that is possible to make of humanity is that which splits it into two classes of creatures: those who make great demands on themselves, piling up difficulties and duties; and those who demand nothing special of themselves, but for whom to live is to be every moment what they already are, without imposing on themselves any effort towards perfection; mere buoys that float on the waves." In other words, lead, follow, or get out of the way.

8. Drive out fear.

There is a tangible economic penalty for fear in an organization. Fear prevents the existence of an atmosphere where employees can use all of their skills and initiatives to the benefit of the organization. Fear is an excellent motivator in cases of emergency such as fight or flight. However, when used as an operating norm for an organization, fear destroys any attempt to establish a Quality

Culture and produces a "CYA" attitude amongst the employees.

In addition, fear causes employees to report misleading or false information, in order to keep from losing their jobs or otherwise being punished. Dr. Deming states; "Fear invites wrong figures. Bearers of bad news fare badly. To keep his job, anyone may present to his boss only good news. A committee appointed by the President of a company will report what the President wishes to hear. Would they dare report otherwise? Statistical calculations and predictions based on warped figures may lead to confusion, frustration, and wrong decisions."

9. Break down barriers between departments.

The organizational customers are both external and internal. In fact, every employee is, at the same time, a customer, a producer and a supplier. A secretary asked to produce a letter is a customer of the supervisor that dictates the letter. If the supervisor does not provide a well-thought out, well-worded dictation free of distractions, the secretary can not be expected to supply a high quality letter to the customer, in this case the supervisor. The secretary was starting with low quality raw materials. In this example, both the secretary and the supervisor were each other's supplier and customer.

Supplier ⟷ Producer ⟷ Customer

Figure 2.3: Supplier/Customer Relationship

Between departments, this effect is magnified. In the above example, the secretary has an idea of why the production of the letter was necessary, and what its intended use would be. Between departments, this is rarely the case. Many organizations that have transformed into Quality Cultures, embracing TQL, have been surprised to learn that production problems between departments that seemed insolvable, dissolved as soon as the suppliers from one department were allowed to visit their customers and see first hand how the products that they supplied were used.

The Planning step of the PDCA cycle must include representatives from both the customer and the supplier in order to fully understand the system. This holds true for internal customers and suppliers as well. An organization whose processes run horizontally, but whose lines of communication run only vertically can not utilize more than 25% of the benefits of TQL.

10. Eliminate slogans, exhortations, and targets for the workforce.

AND;

11. Eliminate numerical quotas.

The bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the workforce. As shown in Deming's Red Bead experiment, slogans and exhortations do not help people to do their jobs better.

Targets and numerical quotas are used by many managers as a motivational tool. Not only are they demoralizing to the workers, they are destructive to the system. Any system will always and forever achieve and maintain its own inherent stability. Numerical quotas and targets below what the

system is capable of provides no challenge to the employees. Above what the system can provide can only be achieved by changing the system.

For example, assume a computer software company offers a help line where operators answer questions about the software to their customers and averages ten calls per hour for each of ten operators. The average wait for customers to talk to an operator is one minute. The system is stable. The company decides to cut overhead and fires five operators. Management sets a target for the remaining five operators to talk to twenty customers per hour, making up for the five lost employees. It does not take the operators long to figure out how to reach this target, especially since they are motivated by the fear of being fired like their colleagues. The managers pat themselves on the back for a job well done.

Sales for the software fall off as word spreads that the company does not provide adequate technical support. This is because the only way that the operators could reach this target was by changing the system. They cut off customers before they had solved their problems. Twenty calls per hour means five minutes per call. Any customer whose problem took more than five minutes to solve, got mysteriously disconnected. If this example sounds unrealistic, it is actually based on a true story.

12. Remove barriers that rob workers of pride in workmanship.

Remember that customers are both internal and external. External customers can not be satisfied if the internal customers are not satisfied. Satisfying the employees must come first. Their

attitudes toward external customers are a direct function of how they perceive their treatment by the organization. The employees can not be expected to be motivated to provide outstanding customer service unless they themselves are receiving such service from the organization. Covey states that, "The employee behind the desk should be treated like the customer in front of the desk."

To build a Quality Culture, teamwork must be fostered. Anything that inhibits this process must be removed. Chief amongst these barriers is the annual performance appraisal system. As shown in the Red Bead experiment, it is not possible to truly rate the employees. Any data is directly related to the system in which the employees operate. Over time, each employee will attain the average allowed by the system because it is in statistical control. Rating employees four through six as below average and employees one through three above average has no bearing on their abilities. It is merely a rating of the system. Any rating based thusly is a falsehood.

These appraisals are much more destructive than simple falsehoods. If two employees are competing for a promotion based on these types of appraisals, they are not likely to assist each other. This is a micro version of Deming's ninth point. If motivated strongly enough, the two employees may go as far as sabotaging each others work in order to make their own results that much better in comparison. Cooperation will not help the individual employees meet their goal of promotion. The organization will never rise above a perpetual state of mediocrity within this type of system.

Barriers may be real or perceived. It is the managers job to identify and remove these barriers, real or perceived. Some other possible barriers are listed below. (Aguayo 1990)

1. Lack of direction.
2. Goals without the tools to achieve them.
3. Arbitrary management decisions.
4. Lack of clear goals and objectives.
5. Unclear how contribution is valued.
6. Lack of expectation setting up criteria.
7. Insufficient information available.
8. Different organizational goals within the company.
9. Too much group management.
10. Deadline anxiety.
11. Lack of product definition.
12. Lack of communication.
13. Poor training.
14. Fear.
15. Unrealistic goals and objectives.

13. Institute a vigorous program of education and self-improvement.

This is different than Deming's sixth point, Institute Training. Training is providing employees the skills that they need to perform their jobs. Education is providing the skills to succeed in the future. Education creates active minds which in turn creates innovation.

As TQL takes hold in an organization and a Quality Culture develops, there will be a reduced need for resources because of a reduction in waste. These resources include people. It is not possible to convince the employees to implement TQL knowing that if they succeed, they will have worked themselves out of a job. TQL will open up expanded opportunities to the organization that can be filled with existing employees if the organization has made a commitment to provide these employees

with the skills needed for these new opportunities.

Self-improvement deals with the development of intrinsic motivation. When organizations were small, each person could tell the others what and why they doing something as they were doing it. Each person could see the results of their work as value added to the product or service. With larger organizations, intrinsic motivation allows pride in workmanship to develop even where value added may not be visible.

14. Take action to accomplish the transformation.

A Quality Culture will not develop on its own. Top management can not create it alone. Employees can not create it alone. The transformation is everyone's job. Moreover, there is not a simple formula for creating the transformation. It will vary from organization to organization. The only common thread between organizations that have achieved this transformation is that they all have maintained a determined commitment throughout the entire organization.

So what is TQL? Total Quality Leadership is the application of quantitative methods to assess and improve materials and services supplied to the organization; all processes within the organization; and meeting the needs of the customers, both internal and external, now and in the future.

What is Quality?

Philip Crosby, in his book, Quality is Free, defines quality as conformance to requirements. Conversely, nonconformance is an indicator of the absence of quality (Crosby 1980). Quality is not the same as luxury, and can not be measured in weight, shininess or by the number of gadgets, lights or buttons; unless those measurements are the specified, required conformance. In other words, quality is not a measure of relative worth.

Quality must be defined as conformance if it is to be measurable. If it is not measurable, it can not be managed. It is not possible to manage a relative worth because the definition changes depending on the individual's point of view. If it can not be managed, there is no point writing about it. Since quality is conformance to requirements, those requirements must, in turn, be measurable. They must also be clearly and concisely stated so that they can not be misunderstood. Appropriate measurement techniques and timing of the measurement should also be specified in the requirements.

If quality is not a measure of relative worth or luxury, why should any effort be expended to increase it? As stated above, quality is measurable. As Crosby states; "In fact, quality is precisely measurable by the oldest and most respected of measurements - cold hard cash." Nonconformance, the absence of quality, is very expensive. This expense is not an abstract idea, but a tangible loss to the organization. "These costs are divided into prevention, appraisal, and failure categories. But they

all are a result of not doing things right the first time. You can spend 15 to 20 percent of your sales dollar on such expenses without even trying hard (Crosby 1980)." Increased quality results in a direct, and measurable, decrease in cost of production, which, in turn, results in increased profit on the organization's bottom line.

If 99.9% is good enough, then...

- Two million documents will be lost by the IRS this year.
- 811,000 faulty rolls of 35mm film will be loaded this year.
- 22,000 checks will be deducted from the wrong bank accounts in the next 60 minutes.
- 1,314 phone calls will be misplaced by telecommunication services every minute.
- 12 babies will be given to the wrong parents each day.
- 268,500 defective tires will be shipped this year.

(Fundamentals of a Quality Culture 1993)

Crosby asks the question, "Why spend all this time finding and fixing and fighting when you could prevent the incident in the first place? Every penny you don't spend on doing things wrong, over, or instead becomes half a penny right on the bottom line."

In industry, organizations can not afford poor quality strictly from a fiscal competitiveness standpoint. According to the Association of General Contractors of America, accidents, waste, rework, inefficiency, poor communication, and poor subcontractor and supplier performance cost

construction contractors five to thirty percent of construction cost. In addition, contractors face prevention costs such as inspection, additional supervision and their increased administrative costs in order to ensure that the level of quality meets any contractual obligations (Chase 1993). Considering that a contractors profit is usually between three and ten percent of construction costs, the cost of quality is a fairly significant factor in whether a contractor can remain competitive or even in business.

If organizations with poor quality were punished solely in a fiscal (cost of doing business) aspect, few would manage to stay in business. Their punishment, however, includes a semi-tangible customer cost. Common sense shows that if a customer is not satisfied with a product or service and an alternative is available, that customer will choose the alternative. The customer's satisfaction can be real or perceived. If the customer's perceptions have been met or exceeded, the customer is likely to remain loyal over time and refer additional customers to the product or service. With this viewpoint, quality is whatever the customer says or imagines that it is (Gerson 1993).

In fact, it has also been shown that it is more difficult to rebuild a good reputation and win back disappointed customers than it is to establish a good reputation in the first place (Harrington 1991). I purchased a new suitcase "guaranteed to stand up to the worst punishment" for an extended business trip. On the return flight, the suitcase came off of the airplane smashed. I sent a letter with a photograph to the manufacturer who promptly sent me a form letter stating that in order to make a claim I would have to pay to send the suitcase to their labs to determine if its construction was faulty. I decided to try sending the same letter and photograph to the airline instead. The airline

telephoned me and asked the particulars of the make and model of the suitcase and politely asked if it was alright to have a local store deal directly with me in replacing it. An hour later, a local store called and asked if I would like to pick up the suitcase or have them deliver it free of charge. I had them substitute a different brand for the same price and received my new suitcase the next day. Over the years since this occurred, I have gone out of my way to use and tout that airline, and still have not bought any other product from the offending manufacturer.

Customers tend to remember a manufacturer or service provider's name only if provided with surprisingly good products or service, or poor products or service (Harrington 1991). Organizations must get into the habit of doing things right the first time, and every time.

Higher Quality:

- ♦ does not cost more. Through the elimination of rework, it generally costs less.
- ♦ does not automatically come with higher priced products.
- ♦ does not automatically result from improved technology or added features.
- ♦ never results from specifying minimum acceptable standards.

(Fundamentals of a Quality Culture 1993)

Crosby states that; "Quality is an achievable, measurable, profitable entity that can be installed once you have commitment and understanding, and are prepared for hard work." In fact, by concentrating on scrap, rework, service, warranty, inspection and testing, Crosby was able to reduce the cost of quality at ITT by an amount equivalent to five percent of sales. This added up to $30 million the first year, $157 million three years later, $328 million two years after that, and $530 million only eight years after the program was initiated (Crosby 1980). To answer an earlier question, organizations should make a commitment to increase quality because they can not afford to throw away that much money.

Crosby lists several erroneous assumptions that prevent organizations from achieving quality improvements. One of these, all the problems of quality are originated by the workers, appears to be a strong foundation for Dr. Deming's Fourteen Points. As shown earlier, the people in the system can not perform better or worse than the system allows them to. Therefore, it is management's duty and responsibility to change the system in order to remove nonconformance. Poor quality can not be placed on the shoulders of the workers, or blamed on the Quality Control Department. Poor quality is a direct result of poor management. Good quality is a direct result of good management.

"The further the administrator gets from the administrated, the less efficient the administration becomes. Although individuals at lower levels can add to the deterioration of a process, there isn't a great deal they can do to improve a product or service. It makes you wonder why so much attention is given to improvement in those areas and so little to management and administration. If effective quality management is to be practical and achievable, it must start at the top."

(Crosby 1980)

Crosby uses a "Quality Management Maturity Grid" in order to determine where an organization is from a quality standpoint, and in which direction it is headed. The grid is broken into five stages: Uncertainty, Awakening, Enlightenment, Wisdom and Certainty. Each stage represents a discreet level of maturity in an organization's quality development.

Stage I, Uncertainty, finds the organization confused and uncommitted to quality. The organization considers every problem unique, and hardly has time to put out existing fires before new ones are discovered burning out of control. These organizations do not recognize that quality improvements and their respective savings exist. They do not define quality as conformance, and management has no idea that they are to blame for the organization's poor quality.

Stage II, Awakening, finds the organization realizing that it has to do something about quality. They are willing to commit effort and money to fix the problem, but are not yet sure how. Management starts to calculate the cost of nonconformance, and may set up teams to attack the problem as they see it. However, many organizations head right back to Stage I when they realize just how much work and commitment is required.

Stage III, Enlightenment, comes about when top management truly commits to a formal

quality improvement program. Management starts to solve problems by facing them openly, instead of seeking individuals to blame. Teams of problem solvers are able to bring about tremendous cost savings as the cost of nonconformance is finally accepted. Enlightenment is a fresh wave of easy successes that everyone wants to ride. As the novelty and number of easy successes erodes, the organization is in danger of sliding back to Stage II. Commitment and strong leadership is needed from the organization's executive level in order to keep the program moving.

Stage IV, Wisdom, can be easily identified by how quiet the organization seems. Problems are identified and solved at the lowest level possible in the organization, and few if any are recurring. Managers wonder why they have so much time to do real managing, like developing long range planning, instead of fire fighting. Wisdom is the stage where permanent changes to the organization have been effected, and results in cost savings beyond what anyone expected was possible. Ideas and innovations are flowing throughout the organization.

Stage V, or Certainty organizations, consider their quality improvement programs as absolutely vital to not only the success, but the very survival of the organization. Few significant problems ever actually occur. Defect prevention is the normal operating procedure.

Quality Management Maturity Grid

Management Categories	Stage 1: Uncertainty	Stage II: Awakening	Stage III: Enlightenment	Stage IV: Wisdom	Stage V: Certainty
Management understanding and attitude.	No comprehension of quality as a management tool.	Recognizing that quality management may be of value but not willing to provide resources.	Initiate quality improvement program; in learning stage; becoming supportive.	Participating. Understands absolutes of quality management. Recognizes their personal role in program.	Considers quality management an essential part of company system.
Quality organization status.	Quality is hidden. Emphasis on appraisal and sorting.	Quality leader appointed. Emphasis remains on appraisal.	Quality department reports to top management.	Effective status reporting and preventative action.	Prevention is main concern.
Problem handling.	Problems are fought as they occur. Lots of yelling.	Teams are set up to attack major problems.	Problems are faced and solved openly.	Problems are identified early in their development.	Except in the most unusual cases, problems are prevented.
Cost of quality as % of sales.	Reported: ? -Actual: 20%	Reported: 3% Actual: 18%	Reported: 8% Actual: 12%	Reported: 6.5% Actual: 8%	Reported: 2.5% Actual: 2.5%
Quality improvement actions.	No organized activities, no understanding of concept.	Motivational, short-term efforts.	Implementation of program with thorough understanding.	Continuing program.	Quality improvement is a normal activity.
Summation of quality posture.	"We don't know why we have problems with quality."	"Is it absolutely necessary to always have problems with quality?"	"Through management commitment and quality improvement we are identifying and resolving our problems."	"Defect prevention is a routine part of our operation."	"We know why we do not have problems with quality."

(Crosby 1980)

It is a long and exhausting trip to travel from uncertainty to certainty. The benefits of that trip are that the organization has remained competitive enough to stay in business. To paraphrase an old proverb, quality is the road and not the destination. As Crosby says; "You can get rich by preventing defects. You can never make much by simply 'assuring' or 'controlling.' Police officers try to keep things under control. Lawyers often work at prevention. You have never seen a rich policeman. There are a lot of rich lawyers. Think about it."

Another way to look at quality is through the parable; "If you always do what you've always done, then you'll always get what you've always got." Dr. Deming's definition of quality is pride of workmanship. He states that; "Quality is determined by top management. It can not be delegated. Hard work, best efforts, and best intentions will not by themselves produce quality... Transformation of management is required - learning and application of profound knowledge." (Deming 1993)

Once the organization has reached a stage where it has developed a quality improvement program with complete commitment, it may not necessarily be ready to attack problem areas. As in any new task, the people need to be trained in how to best accomplish it. Without this training, the quality improvement program is doomed to fail. Teams may be built to study problems that do not exist, they may be comprised of the wrong people for the problem, they may not know what to look for or how to fix it if they find it. In the worst case, they may identify a small problem and make it into a big problem by tampering.

Tampering will almost always result when a motivated, untrained team attacks a problem.

It can result from treating a common cause as a special cause, or by treating a special cause as a common cause. This will generally increase the amount of variation in the system or overburden the system with unnecessary controls. As discussed earlier, the process must first be recognized as a system. Each system, will on its own, reach its own level of stability. There are only three possible outcomes for stability. The system can be negatively stable, neutrally stable or positively stable.

A negatively stable, or unstable, system is one where no controls exist, or where the existing controls are not enough to control any system perturbations. This can be visualized as a marble on top of an inverted bowl. The marble will sit there forever, unless something or someone gives it a little push. The marble will roll off of the bowl, and keep rolling forever, or until it finds a new level of stability. This type of stability is common in Stage I organizations. Each problem that comes along gives the marble a push. The organization is in a constant state of trying to stop the marble. They are out of control.

A neutrally stable system is one where a perturbation causes a new, neutrally stable state. In organizations, this can be a characteristic of a Stage II level of maturity. Each problem is solved as a unique occurrence. The system changes to a new system after each of these perturbations. This can be visualized as a marble on a flat floor. If it gets a little push, it will roll to a new position and stop. Stability wise, it is still neutrally stable. It is just in a different location on the floor. The organization may be making progress by moving across the floor, but they are not getting any more stable than they were.

A positively stable system can be visualized as a marble inside of a bowl. It takes more effort to even create a perturbation than in a negatively or neutrally stable system. When the marble is

moved, it simply rolls down one side and up another until it finally comes to rest back in the center of the bowl where it started. Any problem that comes along for the organization is dealt with without undue stress to the system. Organizations that are positively stable will survive problems that would destroy less stable systems.

In addition, positively stable systems can be further characterized by the level of damping within the system. Damping can be defined as the problem resisting, or system righting force. If the system is perturbed, damping defines how quickly the system reacts to bring itself back under control. There are three types of damping; underdamped, overdamped and critically damped.

An underdamped system will swing back and forth in smaller and smaller arcs until it finally comes to rest. This is a common effect in organizations. They do something wrong and institute a strict control to ensure that it never happens again. Unfortunately, the control is too tight and causes the pendulum to swing in the other direction. This continues until the marble comes to rest on the bottom of the bowl. It is usually a symptom of small order tampering.

An overdamped system prevents the pendulum from swinging in the other direction. It is a gradual return to the equilibrium position. Critical damping also has no overshoot. It is an instantaneous return to the equilibrium position.

The first goal of the quality improvement program must be to determine the system's stability. If the system is positively stable, it is in statistical control. This means that the systems parameters, such as cost, quality, quantity and timeliness, are predictable. Variation is predictable. Management

is essentially prediction, therefore, the system can be managed. If the system is unstable, not in statistical control, it can not be managed. Instead, the system manages the managers. Management is in a reactive state. The quality improvement program can not continue until the system is stabilized, brought under control.

A positively stable system, even though it is in statistical control, will have variation. The marble sitting on the bottom of the bowl can still roll around a little. Deming teaches that there are two types of variation; variation from common causes and variation from special causes. As discussed earlier, the two biggest mistakes a motivated problem solving team can make are treating or mistaking a common cause as a special cause, and a special cause like a common cause (Deming 1993).

A common tool to distinguish between these variations is the control chart. Control charts depict process performance graphically over a period of time. Common causes are those that arise from the system itself. They influence the overall performance of the system in a predictable way. On a control chart, common causes can be seen over a long time period to all fall within the control limits. If for example, a secretary wanted to check typing quality based on the number of errors per day, and found the following after ten days:

Day:	1	2	3	4	5	6	7	8	9	10
# Errors:	5	2	4	1	3	3	2	9	4	2

A control chart could represent this as:

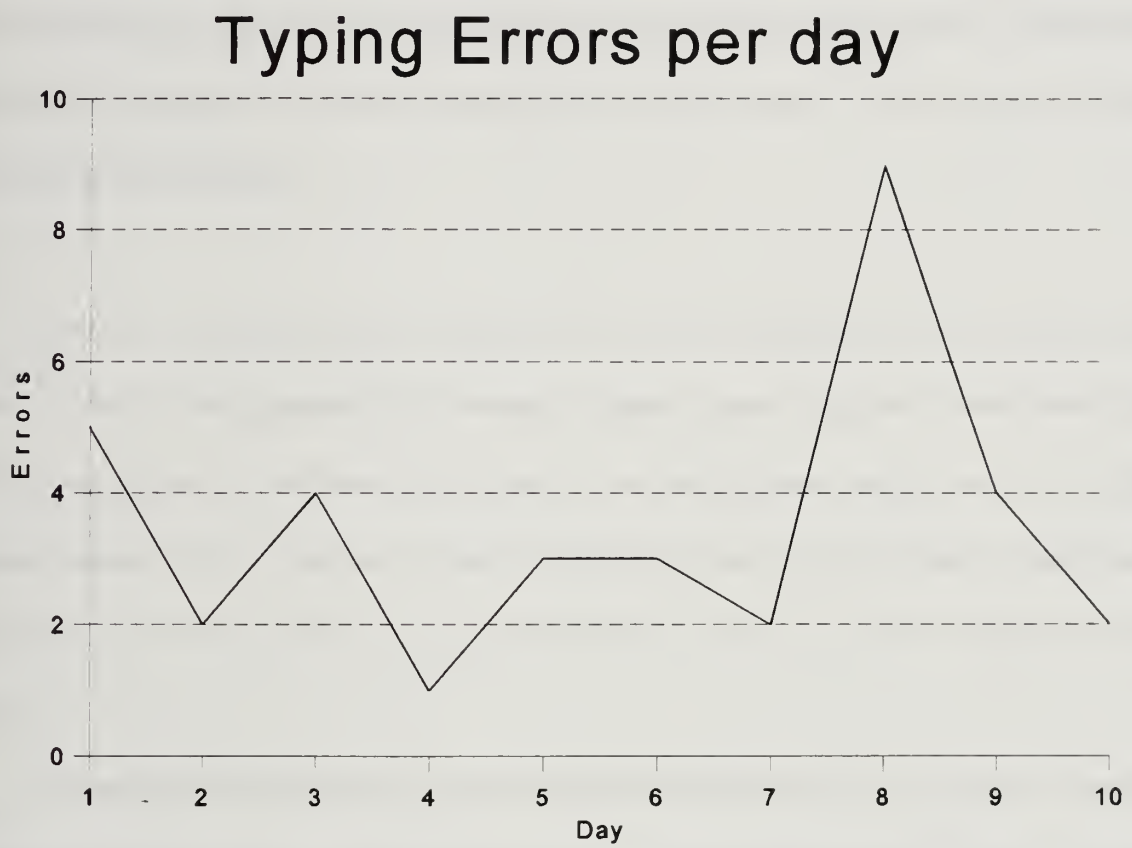

Figure 3.1: Control Chart

Assuming that this is a long enough time period to determine that the system is indeed stable - Deming recommends a minimum of 30 data points, it can be seen that the secretary normally makes between one and five errors per day. This daily variation between one and five are due to common causes. These may include training, accuracy of standards, or the quality of the keyboard being used.

The jump to nine errors on day eight is unusual. It can be quickly seen and identified on the control chart. It lies outside of the statistical upper and lower control limits. As it is a special case,

it must be attributable to a special cause. Perhaps the secretary was worried about something on that day and, consequently, was not concentrating on the task at hand. Perhaps the secretary had to answer the telephone, or deal with other interruptions more frequently than normal. Whatever the cause, it is not common to the system, and must not be treated as such. Special causes are isolated and statistically unpredictable.

Common causes are caused by things such as normal variation in raw materials, machine vibrations or lack of basic operator skill or training. Special causes are caused by unexpected things such as a single batch of defective raw materials, a one-time improper machine set up, or a single untrained operator within a system. Failing to identify the exact type of variation could result in applying short-term, band-aid fixes to long-term problems, or vice versa. Either mistake will result in a loss.

Dr. Deming has another famous experiment called "The Funnel." This experiment is designed to show how tampering affects a system and causes loss. The materials required for this experiment are simple: a funnel, a marble that fits through the funnel opening, a pencil, and a large sheet of paper (Deming, 1993).

Use the pencil to place a dot in the center of the paper. This will be the target. Place the sheet of paper on the floor and stand over it with the funnel and marble. Aim the funnel at the target and drop the marble. Mark the spot where the marble comes to rest on the paper with a circle. Repeat this for a total of 50 drops. The results should be a large, rough circle around the target.

This is where management steps in and decides to adjust the funnel after each drop in order

to compensate for error. From now on, if the marble ends up 2 inches to the right of the target, aim the next drop at a point 2 inches to the left of target. This should compensate for the error and yield a higher quality. Again perform this for 50 drops and mark each drop with a triangle. The results show that circle has actually grown - quality is worse than ever!

Any variation on this experiment, such as using the last drop as a reference point, is guaranteed to only increase the amount of variation in the system, thereby decreasing the quality. No amount of motivation or inspiration by either the workers or management can avoid these results. The original error is within the system. In order to reduce that error, the system must be studied in its entirety. Changing the funnel to a long, straight tube and decreasing the distance that the marble is dropped are examples of system changes that may increase quality.

Because quality is defined as conformance to customer requirements, the organization must first work to define these requirements, and then develop a system to measure conformance. It is extremely important to understand that customer requirements may be real or perceived. Each customer is an individual with their own set of values and experiences. As such, each individual customer perceives things differently in the same situation. Mass averages and statistical techniques can show trends and problem areas, but the entire process must be viewed through the customer if it is to truly create a quality culture paradigm.

According to Crosby, each measurement must have three things in common. First, they must be properly planned. Planned evaluations conducted in a planned way for a planned reason. Second, they must be conducted by properly trained, professional inspectors. The third point, inspection

personnel are organizationally separate from those operations they are inspecting, appears to conflict with Deming's philosophy of doing away with formal inspectors. In reality, this function will shift in emphasis from corrective action to prevention as the organization's quality culture matures. In any measurement category, it is cheaper and easier to prevent defects through prevention than corrective action.

As organizations mature, they will encounter Pareto's Law, otherwise known as the 80-20 Rule. This states simply that 80% of the problems arise from 20% of the system. The other 80% of the system accounts for only 20% of the problems. Organizations should focus on the 20% of the system causing the most problems first. Of these, Crosby states; "Over 85 percent of all problems can be resolved at the first level of supervision they encounter. Of the remaining 15 percent, about 13 percent can be resolved with two levels of supervision, or two different departments, agreeing to change something or act together in a certain way. The remaining 2 percent might require as many as three operations or levels of organization. But they can be solved." (Crosby 1980)

Who will measure quality?	Everyone!
What must be measured?	Everything that affects the customer!
When to measure?	Always!
Where to measure?	Every process that affects internal or external customers!
How to measure?	Established, quantifiable criteria!
Why to measure?	Increase quality and customer satisfaction!

(Gerson 1993)

Part of the maturing process lies in determining the who, what, when, where, how and why of quality (Gerson 1993). This is necessary to close the quality gaps between the organization and its customers. Dr. Gerson, president of a management consulting firm, states; "All the gaps are based on differences in perception between what the business believed it had provided and what the customer perceived to have received." As stated earlier, the perception of inequality to the customer is as important and damaging to the organization as if it were a reality. The most important gaps, as identified by Gerson, are:

- The Gap between what a business thinks a customer wants and what the customer actually wants.
- The gap between what a business thinks a customer has bought and what a customer perceives has been received.

- The gap between the service quality the business believes it is providing and what the customer perceives is being provided.
- The gap between customers' expectations of service quality and actual performance.
- The gap between marketing promises and actual delivery.

Each of these is important for the organization to understand. There are many tools available to assist the manager in reducing these gaps, but none are more important than the basic definition of quality as conformance, the realization that perception is the customer's reality, strong leadership skills, and employee empowerment.

Leadership vs. Management.

As stated earlier, management is doing things right and leadership is doing the right things. Another way to view this is that management is doing first things first whereas leadership is knowing which are the first things. A final, more concise definition of leadership is as the wise use of power. Power is then defined as the basic energy to initiate and sustain action translating intention into reality.

According to Max DePree, CEO of Herman Miller, Inc.; "The first responsibility of a leader is to define reality." Leadership is liberating people to do what is required of them in the most humane way possible. "The measure of leadership is not the quality of the head but the tone of the body." (DePree 1989)

There are five basis of power. These are reward, coercive, expert, legitimate and identification. Reward power is based on an employee's perception of the supervisor's ability to reward. Coercive power is based on the employee's perception of the supervisor's ability to deny privileges or to punish. Expert power is based on a person's perception that another has knowledge or expertise that is needed or respected. Legitimate power is a person's perception that another has the rank or right to give orders or wield power, as supported by law or rule. The last, identification power, is based on a person's perception of the similarity between themself and another, or the desire

to be like another. It can be determined by the amount of respect, admiration or trust that one commands.

Leadership is difficult to explain and quantify. Many theories have been developed to attempt this. The trait theory of leadership attempts to identify effective leaders by physical and personality attributes, such as intelligence, height or self-assurance (Ivancevich, Lorenzi and Skinner 1994).

Who are Leaders?

- People who assume responsibilities for reshaping organizational practices to adapt to changes.
- People who direct organizational changes that build confidence and empower their employees to seek new and better ways of doing things.
- People who overcome resistance to change by creating visions of the future.
- People.

What can effective Leadership do?

- Move organizations from current to future states.
- Create visions of potential opportunities for organizations.
- Instill within employees the commitment to change
- Instill new cultures and strategies in organizations that mobilize and focus energy and resources.

Another theory is that of situational leadership styles. Classified as contingency models, they define a leader's effectiveness by the ability to apply the correct leadership style to the given situation.

The six styles that describe the majority of situations are coercer, authoritarian, affiliator, democrat, pace setter and coach (LMET 1992). These styles differ in the way that a leader involves or impacts subordinates in the organizational environment.

Coercers expect absolute compliance with their plans and instructions. They are often viewed as unresponsive to their subordinates because they do not place value on employee generated ideas or suggestions. They develop only short-range goals and plans, providing clear, step by step instructions for them to be followed out. They leave little room for employee imagination or initiative. Coercers rely on coercive power and motive by threats. They do not develop their subordinates, expecting them to know their jobs and simply do what they are told. To paraphrase two popular commercials, "Why ask why, just do it." They are all stick and no carrot.

Authoritarians practice "firm but fair" leadership. They solicit input from their subordinates on problems and decisions, but leave no doubt as to who makes the final decision. They generally set both short and long-range goals, providing clear direction as to how to accomplish them. Authoritarians use coercive and reward power equally.

Affiliators put people first, even to the detriment of the organization's mission. They are generally good listeners, interested more in personal information than task oriented. They do not set goals or make plans, and do not direct performance or exert influence on subordinates. Affiliators do not provide any type of negative feedback or discipline, and tend to reward personal characteristics instead of work performance. They prefer to be everyone's friend. They rely on identification power for their leadership.

Democrats encourage participation. They believe that decisions should be reached by

consensus and that the employees should make decisions and control work related activities. They do not give clear direction, relying on consensus, and take a lot of time in reaching any decisions. Democrats believe in using rewards for desirable performance as a motivator, and very rarely use any form of negative feedback or discipline.

Pace setters are the "I'll do it myself" leaders. They expect their employees to by self-directed, and to know their jobs well. They communicate by example. Pace setters do not direct. They take personal responsibility for every task, trying to accomplish everything alone. They find great difficulty in delegating responsibility. They tend to reward good performance, and punish heavily when things go wrong.

Coach style leaders guide subordinates toward high standards and improved performance. They listen well and provide frequent, specific feedback. They use their leadership position to aid or guide employees. Coaches ask subordinates to develop plans and solutions to problems. They stress self-improvement. They are more focussed on helping employees to improve than rewards or coercion.

There is no one right or wrong leadership style under this theory. There is only one best style for the given situation. When the situation changes, the leader must change styles accordingly. The following matrix explains when each style is appropriate.

Coercer	Authoritarian	Affiliator	Democrat	Pace Setter	Coach
Crises	Unskilled subordinates.	Routine tasks.	Subordinates well trained.	Clear goals.	Feedback available to subordinates.
Specific procedures must be followed exactly.	Complex organization with special procedures.	Important that manager be friends w/ subordinates.	Subordinates are already excellent performers.	Status distinctions minimal.	Performance measures and goals are clear.
Quick response needed.	Manager is an expert at the process.	Subordinates already motivated.	Autonomy amongst subordinates.	Subordinates are independent.	Organization goals can be met even if individuals do not meet personal goals.

There is no leadership style that is effective all of the time under this theory. Conversely, there is no leadership style that is ineffective all of the time. However, everyone has a dominant leadership style that is used most frequently or as a default. The following exercise can help identify dominant styles. Answer each question honestly, with the choice that appears to be the best of the two given. Mark the unshaded box next to the chosen response. There is no right or wrong answer, and no choice will fit the individual's style exactly. (LMET 1991)

LEADERSHIP STYLE EXERCISE

		A	B	C	D	E	F
1	I am always clear about what I want done, but my orders may sound like recommendations or suggestions. **OR:** I will do everything I can to get a person fired if I believe that person is unmanageable.						
2	Getting the workers to follow the example I set is far more important than having them like me. **OR:** When a subordinate doesn't perform satisfactorily, I tell the person in a fair but firm manner how the performance did not meet my expectations.						
3	I respect high performance, but I watch for and reward subordinates who set and achieve realistic but challenging performance improvement goals. **OR:** In order to build teamwork, I discourage conflicts and disagreements among workers.						
4	Jobs just don't get done unless people realize that you are going to "hammer" them if necessary. **OR:** I think a successful leader should set high personal standards of performance and find ways to encourage subordinates to set and meet their own standards of excellence.						
5	Job security, retirement benefits and other fringe benefits are critical to people being happy. **OR:** When an employee comes to me with a work schedule that is unsatisfactory, I identify those areas where the schedule needs to be strengthened and suggest alternatives to revise the work schedule to meet standards required by the task.						
6	When people trust one another, they improve and develop more rapidly. **OR:** Once performance standards and goals have been established, individuals should have enough drive to accomplish them on their own.						

		A	B	C	D	E	F
7	When an employee comes to me with a work schedule that is unsatisfactory, I identify those areas where the schedule needs to be strengthened and suggest alternatives to revise the work schedule to meet standards required by the task. **OR:** I measure my performance against standards that are higher than the organization expects, and I have little time for people whose individual performance is not high.						
8	I expect my orders to be carried out to the last detail. **OR:** Workers should take intiative and use their own resources to get their job done.						
9	I think a successful leader should set high personal standards of performance and find ways to encourage subordinates to set and meet their own standards of excellence. **OR:** Every person that reports to me must give me a detailed accounting of their work progress.						
10	When a subordinate doesn't perform satisfactorily, I tell the person in a fair but firm manner how the performance did not meet my expectations. **OR:** Meritorious individual accomplishments should be officially recognized and rewarded; disciplining non-performers is rarely, if ever, useful.						
11	I tell workers not to waste time thinking about how others do their jobs but to spend their energy on reaching their own high personal performance standards. **OR:** I don't bother monitoring people's work progress by standing over their shoulders when trust has been developed.						

		A	B	C	D	E	F
12	Giving negative feedback to subordinates hurts the situation more than it helps improve their work. **OR:** I think good leaders should have close, personal relationships with their subordinates.						
13	I respect high performance, but I watch for and reward subordinates who set and achieve realistic but challenging performance improvement goals. **OR:** I reduce resistance to my policy decisions by pointing out to my employees how these decisions will serve their own interests.						
14	I don't bother monitoring people's work progress by standing over their shoulders when trust has been developed. **OR:** When I see people doing something wrong, I confront the issues and administer discipline.						
15	I'm willing to delegate responsibility and authority, but if an individual doesn't perform up to standards, I will take the responsibility myself. **OR:** Once performance standards and goals have been established, individuals should have enough drive to accomplish them on their own.						
16	Jobs just don't get done unless people realize that you are going to "hammer" them if necessary. **OR:** Every person that reports to me must give me a detailed accounting of their work progress.						
17	Consideration for an individual's values and personal convictions should take priority over handling routine jobs. **OR:** Meritorious individual accomplishments should be officially recognized and rewarded; disciplining non-performers is rarely, if ever, useful.						

		A	B	C	D	E	F
18	I am always clear about what I want done, but my orders may sound like recommendations or suggestions. **OR:** When an employee comes to me with a work schedule that is unsatisfactory, I identify those areas where the schedule needs to be strengthened and suggest alternatives to revise the work schedule to meet standards required by the task.						
19	I think a successful leader should set high personal standards of performance and find ways to encourage subordinates to set and meet their own standards of excellence. **OR:** I think part of every leader's job is to inspire subordinates to improve constantly.						
20	When I've decided on an action and subordinates raise questions about it, I tell them why I chose my selected course of action. **OR:** Giving negative feedback to subordinates hurts the situation more than it helps improve their work.						
21	Workers should take initiative to get their assigned jobs done without having to depend on me for help. **OR:** When I think it is necessary to discipline subordinates, it is very clear that I am disatisfied.						
22	I'm willing to delegate responsibility and authority, but if an individual doesn't perform up to standards, I will take the responsibility myself. **OR:** I always find time to advise and counsel people with their problems when it is agreed that they need help.						
23	I expect my orders to be carried out to the last detail. **OR:** I don't bother monitoring people's work progress by standing over their shoulders when trust has been developed.						

		A	B	C	D	E	F
24	I think good leaders should have close, personal relationships with their subordinates. **OR:** When alternate solutions are proposed, I usually make an immediate decision and tell people what I prefer.						
25	I always find time to advise and counsel people with their problems when it is agreed that they need help. **OR:** When people trust one another, they improve and develop more rapidly.						
26	A leader that is not liked by subordinates is not as successful as one that is. **OR:** Workers who run into problems in getting the job done should be able to find a solution to the problem themselves; they should not let a few failures slow them done.						
27	When alternate solutions are proposed, I usually make an immediate decision and tell people what I prefer. **OR:** When I've decided on an action and subordinates raise questions about it, I tell them why I chose my selected course of action.						
28	Getting workers to follow the example I set is far more important than having them like me. **OR:** Consideration for an individual's values and personal convictions should take priority over handling routine jobs.						
29	Once I have made a decision, I take time to convince my subordinates that the decision is the best possible way to go. **OR:** Workers who run into problems in getting the job done should be able to find a solution to the problem themselves; they should not let a few failures slow them done.						

		A	B	C	D	E	F
30	The best plans are those that include input and opinions of everyone in the work group. **OR:** Once I have made a decision, I take time to convince my subordinates that the decision is the best possible way to go.						
31	The best plans are those that include input and opinions of everyone in the work group. **OR:** A leader that is not liked by subordinates is not as successful as one that is.						
32	I believe people can take initiative and be responsible for themselves. **OR:** I usually know how a job should be done, but I try to guide subordinates to take responsibility by suggesting alternate methods for reaching the goal.						
33	Workers should take initiative and use their own resources to get their jobs done. **OR:** I usually know how a job should be done, but I try to guide subordinates to take responsibility by suggesting alternate methods for reaching the goal.						
34	In order to build harmonious teamwork, I discourage conflicts and disagreements among workers. **OR:** I expect my orders to be carried out exactly as stated.						
35	I will do everything possible to get a person fired if I believe they are unmanageable. **OR:** In order to build harmonious teamwork, I discourage conflicts and disagreements among workers.						
36	I expect my orders to be carried out exactly as stated. **OR:** I am always clear about what I want done, but my orders may sound like recommendations or suggestions.						

Once the questionnaire has been completed, count the number of responses checked for each letter. Color in the squares on the chart, located on the next page, corresponding to each column of the questionnaire. For example, if there were three responses in column 'A', and seven responses in column 'B', color in all of the blocks below 55% in the 'Coercer' column and below 85% in the 'Pace Setter' column, respectively. Remember that there were no right or wrong responses on the questionnaire, and that there is no right or wrong dominant leadership style.

There is a need to change leadership styles to fit the situation. Situational theories of leadership suggest that different leadership styles are appropriate at different stages in an organization's development. Organizations should move from a dependence centered environment that requires clear and specific directions, such as under a Coercer, through an independence, such as under an Affiliator, to a final stage of interdependence under a Coach-style leader.

The Bureau of Business Research at the Ohio State University has developed this theory further and broken leader behavior into two categories. The first, task-oriented behaviors, are those behaviors that direct subordinates along formal channels of communication. The second, relationship behaviors, are those behaviors that act to foster a friendly atmosphere of mutual trust and respect between the leader and the subordinates. (LMET 1991)

This research indicates that the degree of emphasis that a leader must place on either task-oriented or relationship behaviors in a particular situation is a function of the leadership maturity of

Leadership Exercise Chart

Percentiles	Coercer	Pace Setter	Authoritarian	Affiliator	Democrat	Coach
100	8+	9+	11	9	11	11
90	7	8	10	8		
	6			7	10	10
80	5	7	9			
				6		
70	4				9	
		6				9
60			8			
				5		
50	3				8	
40		5				
			7			8
30				4	7	
20	2	4				
			6			7
10				3	6	6
		3	5			
0	1	2	4	2	5	5

the leader and that of the organization. This leadership maturity can be expressed as a continuum.

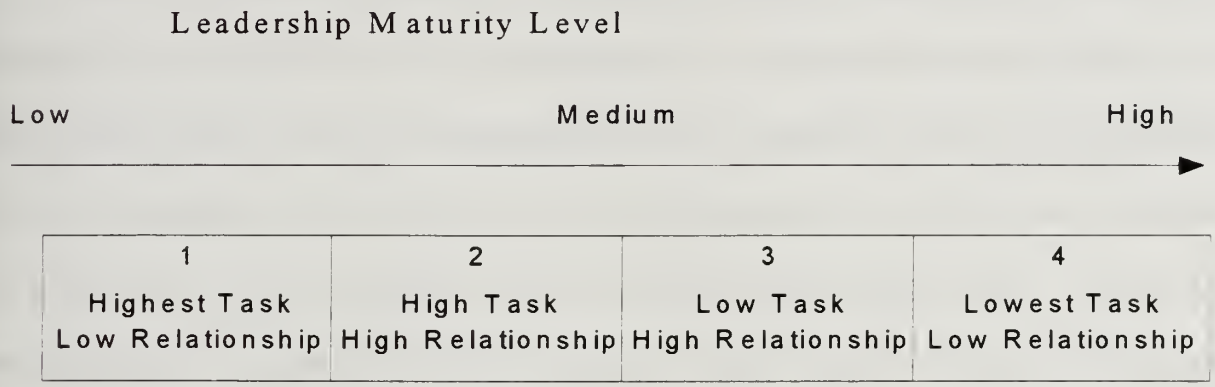

Figure 4.1: Leadership Maturity Level

This shows graphically that a leader must use a high task, low relationship style on a low maturity organization. In addition, this continuum shows that a leader using this same style on a mature organization will cause the organization's maturity level to decrease over time. Quadrants 1 through 4 of the continuum have also been referred to as Telling, Selling, Participating and Delegating, respectively.

The fourth quadrant is reserved exclusively for teambuilding. A team can be defined as two or more people with complimentary skills who are committed to achieving a common goal (Fundamentals of a Quality Culture 1993). This stage requires the leader to delegate authority and responsible so that the organization can reach a stage of interdependence. This can only be

accomplished through a successful and ongoing strategy of empowerment.

There are many more theories of leadership than the two offered above. However, the theories are not as important as the practical application. Leaders must serve those they lead. As Max DePree points out in his book, Leadership is an Art, leaders have important responsibilities. They are responsible for the effectiveness of the organization, for providing and maintaining momentum, and for developing, expressing and defending values (DePree 1989). Among these values are respect for people and diversity. As he states; "Understanding the diversity of these gifts enables us to begin taking the crucial step of trusting each other. It also enables us to begin to think in a new way about the strengths of others. Everyone comes with certain gifts - but not the same gifts. True participation and enlightened leadership allow these gifts to be expressed in different ways and at different times."

Personal Qualities for Effective Leadership

- Self-knowledge and Self-confidence.
- Leading others to self-knowledge.
- Moral values and Courage.
- Communication.
- Loyalty.
- Common sense.
- Initiative.
- Decisiveness.
- Compassion.
- Concern for efficiency and effectiveness.
- Good management processes.

(Mack 1983)

Total Quality Leadership

According to Dr. Deming, a leader sees the work group as a function within a system (Deming 1986). By working in cooperation with preceding and following stages, the leader ensures optimization of the efforts in all stages, and ensures support of the organization's goals and vision. The leader embraces diversity, creates interest, challenge and joy in the work, and strives for improvement and innovation by optimizing the education, skills and abilities of subordinates. Finally, a leader is a coach and a counsel, but never a judge.

The leaders tools are empathetic listening, statistical calculation, trust, respect, cooperation and power. A leader's attributes are (Scherkenbach 1991):

1 Creates more leaders.

2 Focuses on the customer, both internal and external.

3 Knows when to coach and when to counsel.

4 Removes obstacles to joy in work.

5 Understands variation.

6 Works to improve the system.

7 Creates trust.

8 Forgives a mistake.

9 Listens.

10 Continually improves his or her education.

Leadership and management are different. According to Covey; "Management and leadership are not mutually exclusive; in fact, it might be said that leadership is the highest component of management. And leadership itself can be broken into two parts: one having to do with vision and direction, values and purposes; and the other with inspiring and motivating people to work together with a common vision and purpose." (Covey 1989)

The distinction between leaders and managers is more than those titles can suggest. According to Dr. Deming; "The job of a leader is to accomplish transformation of his organization (Deming 1993)."

Management works within the established system. It is responsible for achieving the goals and objectives of the system. Managers plan and organize. They attempt to optimize their resources through prediction techniques. Managers deal with processes. Management styles deal with appearances instead of substance.

Leadership creates new systems and new paradigms. Leaders establish the plans, goals and objectives for the managers to follow. Leaders deal with people.

A Total Quality Leadership culture requires a new paradigm and a new system. This can only created by leaders. Covey equates efficient management without effective leadership as "like straightening the deck chairs on the Titanic." If an organization can not find a leader or group of leaders to champion the program, it will not succeed. This is the reason that Deming states that the change must be driven from the top level of the organization.

Empowerment.

Empowerment develops and enables subordinates to become leaders themselves. It can be defined as the creation of conditions within an organization which allow individuals to contribute their maximum potential to achieving the mission of the organization. Empowerment is the tool that leaders use to achieve quality and a Total Quality Leadership culture.

Dr. William Byham, from his book Zapp: the Lightning of Empowerment, states; "The problem is that my boss wants more...because the customers demand more...because competitors are delivering more, but: (Byham and Cox 1988)

- My worker's won't do more than the bare minimum.
- Hardly anybody gets excited about work.
- My workers only care about their paychecks and vacations.
- Nobody takes responsibility for anything."

Empowerment is the most mature stage of delegation of authority. This is different than delegation of responsibility. Giving someone responsibility tells them to get something done. Giving someone authority gives them the power to make decisions on how to get it done. Delegation of authority gives employees self-esteem and creates a sense of ownership in their work. This is important because the organizational managers rarely have a daily influence in the success of their

projects. In order to be successful, people and therefore projects need direction, knowledge, resources and support.

In 1989, Stephen Covey published The 7 Habits of Highly Effective People. He states that his purpose for writing this book was a startling revelation that he discovered while researching writings done over the past 200 years about success. From 1776 until about 50 years ago, most literature on this topic was dedicated to character ethic issues such as integrity, humility, fidelity, temperance, courage, justice, patience, industry, simplicity and modesty. Shortly after World War I, the basic view of success, as Covey found in the literature, shifted towards personality ethic issues such as public image and public relations techniques. (Covey 1989)

In fact, our entire society has moved into an era of *hyperculture*. The common ground in today's marketplace is speed at all costs; microwaveable and fast foods, one-step use and throw away products, bells and gadgets, image over substance. Hyperculture means we want it faster, we want it now. The price we pay when we succumb to hyperculture is that we allow the framework of our society to change faster than its individuals. We lose our humanity and our humility.

Covey's basic premise is that interdependence is greater than independence, which is in turn greater than dependence. The 7 Habits are a way to move from dependence to interdependence through what Covey calls the maturity continuum. Dependence is where all organizations start. Only by moving through the continuum can organizations survive in today's competitive marketplace.

Dr. Deming also wrote about the importance of interdependence. "The greater the interdependence between components, the greater will be the need for communication and cooperation between them. Also, the greater will be the need for overall management." Deming uses the following figure to describe the degree of interdependence required to be successful in the listed activities. (Deming 1993)

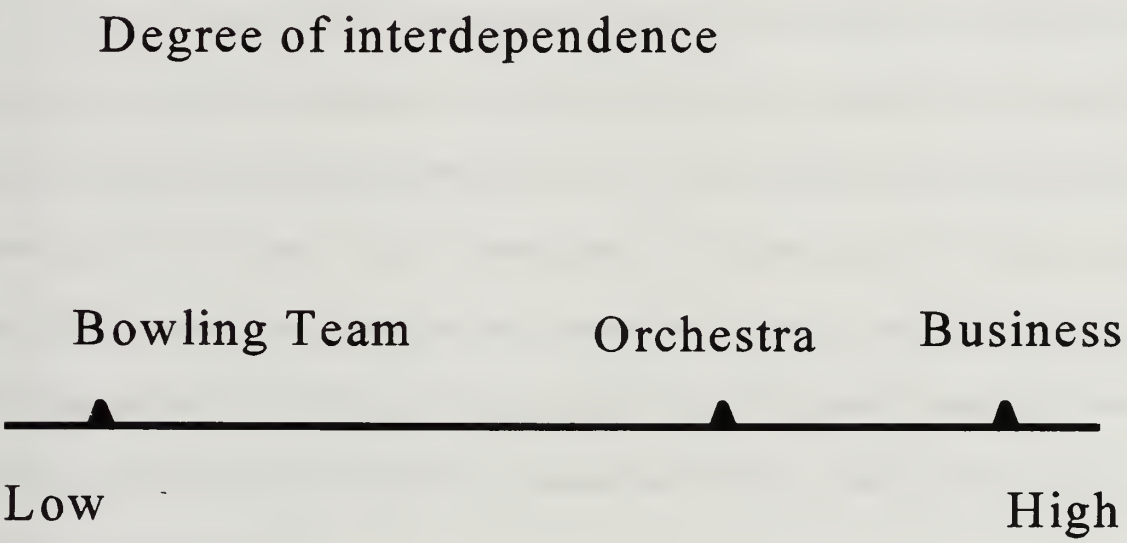

Figure 5.1: Degree of Interdependence

Deming goes on to state that; "Failure of management to comprehend interdependence between components is in fact the cause of loss from use of MBO (Management By Objective) in practice. The efforts of the various divisions in a company, each given a job, are not additive. Their efforts are interdependent. One division, to achieve its goals, may, left to itself, kill off another division." (Deming 1993)

It is in empowering individual employees, divisions and departments to contribute their best to the system, instead of optimizing their own, individual, productive capabilities and responsibilities, that makes Total Quality Leadership as effective as it is. As discussed previously, independent units, whether they be individuals, divisions, departments or machines, can not be easily optimized independently without adversely affecting the organization. However, very few independent units are truly independent. If the units are, in reality, dependent or interdependent, attempting to optimize them independently will result in other units operating less efficiently. The organization as a system will suffer. Loss will occur.

Even if the units are truly independent, the organization as a system is not necessarily optimized. To be truly independent, these units generally must have some duplication of effort. No matter how it is classified, duplication of effort is expensive and unnecessary. Elimination of this duplication is often listed as one of the first places to start improving in management literature. In fact, interdependence is the most efficient way to conduct business.

What is best for one employee, one division or one department is rarely what is best for the organization. A cost savings or an efficiency increase for one unit of an organization measured

independently of its effect on the overall process can destroy that process. Examples of this include:

- Not asking for a customer's input in a design process will greatly reduce the time required to produce the design. Will the customer want it when it is finished? Will it meet the customer's needs?
- An organization's supply department can cut costs immediately by refusing to purchase pens, pencils or paper. Can the organization produce without these supplies?

Interdependence does not arise in an organizational culture naturally. Fundamentally, most businesses are structured to support a Win-Lose culture. This is discussed in detail by Covey. In fact, Covey's 7 Habits are structured so as to bring about interdependence. The 7 Habits are meant to work within any system; personal, family or business. They should be incorporated into every organization's development plan that wishes to reach interdependence. The first three of Covey's 7 Habits are designed to move the organization from dependence to independence.

The first of the 7 Habits is to be proactive. This means taking the initiative and responsibility for making things happen. Instead of waiting for things to happen and then making a reactive response, spending the day putting out fires, leaders do long range fire prevention. Employees have to be allowed to use their independent wills, consciences and imaginations to avoid problems before they occur.

Proactive is the opposite of reactive. In Crosby's Maturity Continuum, organizations in the Uncertainty of Stage 1 are, by nature, reactive. When a problem arises, they react to it and try to find

a solution. Stage V Certainty organizations are proactive. They avoid problems before they occur. Organizations are people. A simple fact that tends to get lost in the day to day fire fighting of work. If the people in the organization are proactive, then the organization is proactive. The opposite is also true.

Covey explains this first habit as the habit of personal vision. He shows that the best way to be proactive in predicting the future is to create it. Plan for it, make value based choices toward predetermined goals and objectives, check to ensure that the vision is still valid and that the path will arrive there, and make corrections as necessary. Deming calls the same path PDCA, or the Shewhart Cycle.

Proactivity is:

- The power to choose our own responses.
- Choosing from values, not feelings.
- Focusing on creating results.
- Absence of judgement and blame.

(Covey 1989)

The second Habit is to begin with the end in mind. This concept is what separates leaders from managers. Beginning with the end in mind means developing and prioritizing objectives before planning how to achieve them. It also means that each decision and action should be judged by its ability to move the project towards those objectives efficiently.

Covey uses this habit to define values in order to guide proactivity. This includes the development of mission statements and goals. It is difficult to arrive somewhere unless the destination is known. As Covey points out; "Let's consider some of the underlying paradigms, or mind-sets. These paradigms are like maps. They're not the territory; they describe the territory. And if the map is wrong - if we're trying to get to some place in Detroit and all we have is a map of Chicago - it's going to be very difficult for us to get where we want to go. We can work on our behavior - we travel more efficiently, get a different car with better gas mileage, increase our speed - but we're only going to wind up in the wrong place faster. We can work on our attitude - we can get so 'psyched up' about trying to get there we don't even care that we're in the wrong place. But the problem really has nothing to do with attitude or behavior. The problem is that we have the wrong map." (Covey, Merrill and Merrill 1994)

The third Habit is to put first things first. Organizational managers often focus on perceived or real conflicts and lose sight of the gains that have been made. The details should not be so overwhelming that the big picture gets lost. This habit starts with simple time management, but develops into personal management paradigm that frees the practitioner from being a slave to time.

Covey uses a Time Management Matrix to demonstrate this principle. The matrix is composed of four quadrants based on urgency and importance. These terms are simply defined. Important things serve the mission and unimportant things do not. Urgent things have a pressing deadline and non-urgent things do not.

Figure 5.2: Time Management Matrix

Urgent	Not Urgent	
1 Crises Pressing Problems Dead-line driven projects	2 Preparation Prevention Planning Relationship building True re-creation Empowerment	Important
3 Interruptions Some mail Some reports Some meetings Some phone calls	4 Trivia, busywork Junk mail Some phone calls Time wasters Escape activities	Not Important

(Covey, Merrill & Merrill, 1994)

Quadrant 1 is defined as the "symptom" quadrant. Activities in this quadrant are both urgent and important. This is where real fire fighting occurs. Covey states that all time management problems eventually show up here.

Quadrant 2 is defined as the "cure" quadrant, or as the "Quadrant of Quality". The more time spent on Quadrant 2 activities, the fewer Quadrant 1 activities that arise. This is the quadrant where problems are anticipated and prevented before they occur. Personal leadership and empowerment occur here.

Quadrants 3 and 4 are collectively known as the "cause" quadrants. The problems that show

up in Quadrant 1 are usually attributable to too much time spent by the manager in Quadrants 3 and 4. Quadrant 3 is where things thrive that appear urgent, but are not important to the overall mission. Stress junkies, people that feel that they need stress to be productive, have a difficult time discerning between Quadrant 1 and 3 activities.

Quadrant 4 is filled with time and energy wasters. These activities are neither urgent nor important. People who have problems handling stress often find themselves in this quadrant. Many of these activities are escapes from the stress that lives in Quadrant 1. If a fraction of the time spent in Quadrants 3 and 4 was re-invested into Quadrant 2, the need for reactivity would be replaced with the momentum of proactivity.

Organizations following the first three steps will reach independence. Habits four through six lead to interdependence.

Habit four is to think win-win. This means simply ensuring that all agreements are mutually beneficial, mutually satisfying. When all parties feel good about a decision or an agreement, they feel personally committed to ensuring it is followed through.

Negotiation is a form of communication which one party uses when trying to reach an agreement with others over interests that may be shared or opposed. This form of communication is essential to the organization because of the diversity of the organization's individuals, as well as between them and other organizations with which they have customer-supplier relationships. It is a form of communication, and as such can only be successful if all parties involved make a commitment

to communicate. Giving others a chance to express their ideas is as important as expressing your own. If the communication fails, so does the negotiation. When this happens, the parties involved lose. Even if one party is able to force agreement on another, the communication failure makes this agreement worthless since the other party may choose not to honor it or to seek "revenge" through some other means, such as malicious compliance. Malicious compliance is a term for when one party complies with an agreement in such a way as to intentionally hurt the other party. For example, if you ordered your son to mow the lawn and he did so, but set the mower on the absolute lowest setting so that the lawn is ruined.

The Win-Lose outlook is the most common in American society. If two teams are playing a game, for one team to win, the other team must lose. This mentality bases its strategies on power and position to gain an advantage, because its core outlook is that life is a zero sum game; for me to get mine, you have to give up yours. This outlook has been described by Dr. William Ury as; "What's mine is mine. What's yours is negotiable." (Ury 1993)

Win-Lose managers rely heavily on tactics to gain an advantage. These include emotional ploys, surprise, intimidation, feinting, apparent withdrawal, reversal and "take it or leave it" strategies. These managers also tend to set unreasonable deadlines while ignoring the needs of their employees. They use their position and authority as an enforcer when their tricks and tactics fail.

The problem with this philosophy is that nobody likes to lose. The party that loses has no internal motivation to perform the objectives of the other, generally the organization. In fact, that party may decide to turn the loss into a win by performing the bare minimum or through malicious

compliance.

The Lose-Win outlook is often a byproduct of managers attempting to use Win-Win when they do not fully understand how it works. It is the philosophy of capitulation. People who have little courage to express their own feelings and are easily intimidated by conflict often place themselves in this role. These managers have the right intentions, to ensure that the other party reaches a winning solution. However, they do so by reaching a losing position for themselves. They forget their goals in the pursuit of accomplishing the other party's. Lose-Win managers can not afford to stay in business very long without changing their outlook. Unfortunately, most change to a Win-Lose strategy to regain their strength.

Lose-Lose is what happens when two strong Win-Lose negotiators square off. Both parties lose. The parties will typically become vindictive over the smallest details. They will become obsessed with making sure that the other party loses, even if they themselves lose. Each side is so unwilling to yield on a minor interest, that a major interest may be sacrificed (Jandt 1985). This was a characteristic of many labor negotiations that ended in strike, such as the recent baseball strike. Both sides had valid positions, but neither side was willing to give ground so that the other could achieve some objectives. They resorted to name-calling and harassment, ending in an inevitable strike that harmed both sides.

Win-Win is based on the principle that there is plenty for everyone. Instead of viewing the world as a finite pie, where in order to make one slice larger, another slice must be made smaller, this philosophy shows that cooperation can make the pie bigger to accommodate both. It is based on solutions or agreements being mutually beneficial and mutually satisfying. If both parties feel that

they have reached a Win-Win agreement, there is a strong internal motivation to accomplish the objectives agreed upon. This motivation is far stronger than any external driver, such as an employment contract, and usually guarantees a successful outcome of the project.

Unfortunately, Win-Win negotiating is not as simple to accomplish as it seems. This is because Win-Win negotiating is a philosophy not a procedure and society has a natural predisposition to Win-Lose mentalities. As a philosophy, Win-Win requires some re-education in dealing with people. An emotional bank account must be developed and fostered, and both parties have to have ownership of the outcome.

Both Covey and Ury use the principle of emotional bank accounts. They use the metaphor of emotional bank accounts to describe the amount of trust that has been built into a relationship. Deposits make the account grow and withdrawals make the account shrink just like a regular bank account. Deposits come from courtesy, kindness, honesty and keeping commitments. Withdrawals come from reactions such as discourtesy, disrespect, threats, dishonesty and breaking commitments (Covey 1989). In short, deposits are symptoms of professionalism and withdrawals are symptoms of antagonistic behavior. Too many withdrawals can make the account overdrawn. The level of trust gets low, and each party starts planning for a Lose-Lose war.

The book The Win-Win Negotiator, by Reck and Long, focusses on the often forgotten key objective of negotiating. Reaching a satisfactory agreement is not the ultimate goal of negotiating, but obtaining satisfactory performance is. Reck and Long recommend developing Win-Win relationships. They go as far as planning social activities, such as picnics or dinners, in order to

cultivate a sense of mutual trust. These activities can be seen as being designed to establish and build an emotional bank account. Reck and Long state that a "Win-Win Negotiator" will allow the relationship to fully develop before discussing business. Although this is not always possible or desirable in an organization, it highlights the need for building and maintaining the emotional bank account. It is harder to fight with or to say no to friends than to strangers.

Win-Win agreements require courage and consideration. They result in commitment because both parties are achieving their goals. They result in better ideas because both parties are able to see and understand the entire situation. They are necessary to reach interdependence.

Habit five is to first understand, and then be understood. This is the concept of empathetic listening, perception and real communication. It is not uncommon in industry for organizations to have meetings without communication. One party may have a differing view on an issue that another party does not want to hear, the "my way or the highway" syndrome.

This can only be overcome by clearing any prejudices on the issue from your mind, and listening with the intent to be swayed to the other party's point of view. Find out why that party *really* feels the way that they do. If they fail to convince you that they are right, you now know their reasons and may be able to convince them of your point of view. This may also allow you to gain an insight into their specific situation that will result in a better solution than the one you had originally planned.

If neither party can convince the other but both have tried empathetic listening, the parties can agree to disagree and reach a compromise or agree to reach a compromise at a later date. A common

mistake of inexperienced managers is to forget to listen first and take the other parties rejection of their ideas personally, escalating a conflict into a major problem.

To ensure that you have been understood, especially between organizations, develop and share documentation. Write down the important points of meetings and send it to the other parties with appropriate closure language such as *"I think the above listed points cover the agreements that we reached. If I missed something, please let me know."*

Empathetic listening is difficult. You must first forget any prejudices that you might have about the topic or your solution, and then you must truly be willing to let the other party influence you. This is the reason that Win-Win agreements must be thoroughly understood before advancing along the path to interdependence.

The main obstacle to empathetic listening is the ingrained habit of filtering what people are saying through our own experiences. Covey calls this "autobiographical responses." These take four forms: Evaluating, Probing, Advising and Interpreting. (Covey 1989)

Evaluating treats what the other person is relating to us as if it were a similar experience that we had in the past. It is judging the other person through what we ourselves have experienced.

Probing is asking questions to further identify similarities between this situation and our own experiences. It has the effect of directing the communication toward things that our experiences have shown to be important, without regard for the actual situation.

Advising blocks communication. It is telling others what we would do if in their position. Unfortunately, it is based on our biases without regard for the specifics of the problem, and tends to become another point of conflict between the advisor and advisee.

Covey explains Interpreting as; "explaining why people behave the way they do." We attempt to explain their behaviors based on our own experiences and motivations. This can leave the other party feeling "manipulated, insulted, or psychoanalyzed." (Covey 1989)

These autobiographical responses are natural. They can even be helpful if they are suppressed long enough to gain a true understanding of the entire situation. Find the problem before attempting to look for a solution. It is important to remember that similarities between this situation and a past experience do not make them the same.

Empathetic listening is more of an attitude and willingness to understand, that it is a practiced and polished skill. Therefore, it can be mastered. It must be a conscious decision each and every time that it is used. If used often enough, it can become one of the habits on the path to interdependence.

Habit six is more of a byproduct of the first five than an action: Synergize. Synergy is when the whole is greater than the sum of its parts. It is when the communicating parties consider themselves a team and look out for each others interests against any outside influence. The team accomplishes this by valuing differences - they build on each other's strengths and compensate for each other's weaknesses. Synergy is seeking to optimize the interdependent components of a system to where the whole becomes more than the sum of its parts. Optimization of the system as a whole must be the goal when studying the individual components or processes. Interdependence is a natural symptom of synergy.

Synergy is the philosophy that one plus one equals something greater than two. It is real and

can be seen everyday in organizations that have reached interdependence. It results in making the organization into a strong team.

The term team can be defined as two or more people with complimentary skills who are committed to achieving a common goal. It should not be confused with posters or speeches exhorting teamwork. True teamwork is a product of interdependence and can only be reached through that path. Several professional sports teams have learned this lesson the hard way. They have recruited the best players at each position, paid them incredible amounts of money to perform, and placed teamwork signs in the locker room - only to finish the season behind teams with lesser players who use synergy and interdependent teamwork. In fact, some of these high priced teams have finished last in their respective divisions. As Vince Lombardi once said, "Wearing the same shirt doesn't make you a team."

Covey's 7 Habits of Highly Effective People

1. Be proactive.
2. Begin with the end in mind.
3. Put first things first.
4. Think Win-Win.
5. Seek first to understand, then to be understood.
6. Synergize.
7. Sharpen the saw.

(Covey 1989)

Habit seven is to sharpen the saw. This is Covey's reminder that his first six points are habits, which by definition must be continually practiced in order to remain "Habits". Sharpening the saw refers to the fact that we would not attempt to use a tool such as a saw if its blade was dull from inactivity. Our bodies and minds are the primary tools that each of us possesses, and be treated at least as well as we treat our other tools. Covey recommends "doing regular daily activities to cultivate the other six habits and transform them into behavior that happens naturally and spontaneously." These include strengthening the physical, mental, spiritual and social-emotional self. (Covey 1989)

As can be seen from the above discussion, interdependence is a necessary condition for empowerment to be able to thrive. Empowerment is nothing more than the creation of conditions within an organization which allows individuals to contribute their individual maximum potential toward achieving the mission of the organization (Fundamentals of a Quality Culture 1993).

Empowerment is not the same as the delegation practiced in most organizations. Delegation tells a subordinate to get a task done; it may even tell that subordinate how to accomplish the task. Empowerment shares a goal with the subordinate. The goal includes the what, where, when, how and why it is a goal in the first place. Instead of giving direction, it is giving ownership. The ownership transfer is the difficult step for the manager because it implies giving up control. Most managers believe that their job is to control and, therefore, prefer to give direction.

Delegation can be viewed graphically as a continuum. At the left-most edge of this continuum are managers who prefer to do it themselves. They feel that "If you want it done right, you got to

do it yourself." They are in absolute control. Unfortunately, even the best managers can only handle so many tasks at a time, and "Do it myself" managers invariably create a backlog. The backlog adds to the problem by giving the manager a sense of self-importance with the self-fulfilling feeling of "This organization wouldn't be able to survive a day without me." This manager's subordinates have no reason to get excited about work or about their contributions to the organization because they know that the manager is going to handle everything anyway. The morale and motivation of the employees is low and getting worse.

Administrative delegators are managers that task their employees without giving them the authority to complete the tasking. This is also referred to as delegation without authority, as discussed earlier. The subordinates are not allowed to make decisions or to expend resources. Even though the manager feels that delegation has taken place, the manager is just using an extension of "Do it myself". The subordinates are doing the ground work while the manager makes all of the decisions. This results in the feeling of being "micro-managed" and does not lead to happy, productive work environment.

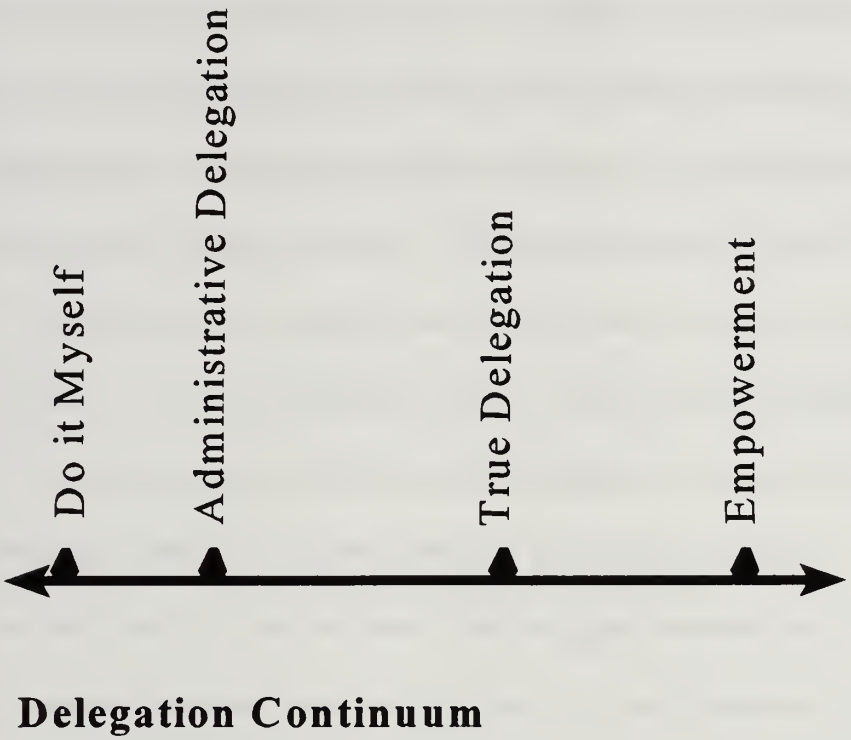

Figure 5.3: The Delegation Continuum

True delegators give up some authority and control with the tasking. The subordinates get to make decisions and expend resources in order to accomplish the tasking. Their morale and motivation improves because they are allowed to make a true contribution to the organization. The manager usually gets recognition from superiors for running a tight ship and being able to handle more taskings than that manager's peers who are still to the left on the continuum. The manager has still maintained a sense of complete control by not giving the subordinates the what, where, when, how and why of the tasking. The subordinates get the assignment, but do not get to help develop the

assignment. They are given direction, resources and support. No one has thought that they may be a valuable source of ideas, suggestions and information beyond accomplishing the tasking.

Empowerment is asking the subordinates for help. It is giving them the knowledge - any information, skills or training necessary - and having them help develop the goal or define the problem. It is giving them the support and resources that they need in order to accomplish the developed goal or to correct the defined problem. In the process, the manager is transformed into a leader. The subordinates know that they are contributing to the organization and can see the effects of their contribution directly. The subordinates are developing into leaders. They now feel that the organization could not survive without them. They are highly motivated and look forward to coming to work. Productivity hits and maintains an all-time high, and absenteeism drops.

In organizations, most managers prefer to stay to the left of the delegation continuum. This allows them to exactly see and understand their own influence on the process. The organization can not mature under these conditions. A Quality Culture can not exist and any efforts to instill Total Quality Leadership are doomed to failure.

Empowerment requires a paradigm shift for managers. That must be willing to give up power and control. They must become leaders. Leaders serve. They must become willing and eager to empower their subordinates. Empowerment and interdependence are the final keys to opening the gateway to a Total Quality Leadership Culture.

The Solution - Total Quality Leadership Culture

Global competition is changing the world marketplace. Organizations can no longer afford to hire and fire employees depending on market production predictions. The cost of training prohibits this practice (Herman 1990).

Today's worker has had to adapt to exploding technology. They have gained the ability to reason independently of management. They are able to use skills and systems that were not available when today's managers learned the trade. New applicants are more interested in stability and being able to make a contribution to the organization. They are more selective in deciding which organization to work for (Herman 1990). Autocratic management will no longer work. It is a certain path to failure.

To remain competitive in this new market, organizations must fully utilize all of their resources. Chief amongst these are their employees. There is no database, user's manual or textbook that can possibly contain the amount of knowledge and experience of these employees. Contrary to some popular literature on the subject, they are ready, willing and able to ensure the organization's success. They only need to be asked.

The goal of Total Quality Leadership is to create a lasting improvement in the way that the

organization views quality. As stated earlier, an organization is defined by the people that belong to it. Therefore, a quality organization starts with quality people. Quality people nurtured by quality leaders in an atmosphere of interdependence and empowerment form a quality culture.

The word culture implies much more than simple propaganda. It implies an underlying attitude and behavior that influences the decisions and responses of the people belonging to that culture. Culture defines the proper way that people expect to be treated by each other and the organization, as well as how they in turn will treat others.

A culture can not be created or instilled by directive. It must be planted and nurtured by the organization's leaders. It must be continuously protected from harmful influences and political agendas. A culture grows by the daily actions of the people belonging to it.

An organization is fertile ground for a culture. If a quality culture is not planted, another culture, like a weed on an untended farm, will surely sprout. A culture is an environment that encompasses the values, beliefs and attitudes of the group. It stems from the rules and regulations of the organization to its management practices, philosophies and paradigms. The culture is what shapes the way people view their jobs, each other, the organization and their customers.

A Total Quality Leadership Culture is an organizational environment that fosters the attitudes and behaviors necessary to incorporate the philosophies and tenets of Total Quality Leadership. It is neither a competitive system nor a system that is meant to allow the organization to do more with less. In fact, the word culture precludes it from being thought of as a system at all. It is an atmosphere that empowers the people to improve the quality of both the system processes and

products. The improved quality brings about higher productivity and lower cost, while increasing motivation through pride in workmanship.

The first key to a Total Quality Leadership Culture is to understand the theory of TQL. Deming's teachings, especially his 14 Points, must be learned by, taught to and incorporated into the organization. Total Quality Leadership is a strategic, integrated system of leadership for achieving customer satisfaction and a customer focus by involving all employees in quantitative methods of continuous improvement. Its emphasis is on preventing errors from occurring in the first place instead of attempting to inspect for and correct them at the end of the process. TQL shows that problems are caused by the system, for which management is responsible not the employees that currently bear the brunt of the blame, and that the best source for correcting the system are those same employees.

The second key is to establish a quality goal with a clearly defined plan for achieving its objectives. Quality must be understood as conformance. It can not be confused with relative worth or luxury. Conformance must be measurable, and everyone in the organization must be taught how to establish it, look for it, measure it and correct problems.

The third key is to develop leaders. Leaders must understand and wisely use power. They must learn that their job is to advance the organization's maturity level while developing their subordinates into leaders. Leaders are necessary to carry any quality improvement program over the rough spots that are certain to appear. A manager can improve a system, but only a leader can create a new system, a new paradigm. Leaders serve by removing obstacles and planting the seeds of the

new culture.

The fourth key to a Total Quality Leadership Culture is to empower. Empowerment is not the same as delegation. Empowerment is a transfer of ownership. Covey's teachings and his 7 Habits are required to create the interdependence necessary for empowerment to take hold within the organization. Interdependence and empowerment fertilize the growth of the culture.

The final key is to realize that quality is necessary for the organization's very survival, and that it is only a path and not a destination.

APPENDIX

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